RDF-C1/RDF-C1 EDITOR

SERVICE MANUAL

(for 220/240V)

REVISION 0   AUG. 1992

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I. FEATURES

1. Accommodates two-sided documents.
Equipped newly with a reversing mechanism, the machine is capable of handling two-sided document pages.

2. Picks up document pages over and over again.
The machine's pick-up tray serves also as a delivery tray. Since the machine picks up the pages as many times as necessary, you can sort the pages without the help of a sorter.

3. Identifies document size.
The machine automatically identifies the size of the document pages during pick-up operation, and communicates the size to the copier.

4. Accepts A5 document pages.

5. Uses a DC motor.
The use of a DC motor enables the same machine to be used for different frequencies (power supply).

6. Provides a multiple size mode.
Using multiple size mode, you can process document pages of different sizes (of the same unit of measure).

7. Places two document pages on the copier's copyboard at the same time.
The machine can feed pages so that two small-size document pages may be placed on the copier's copyboard at the same time.

8. Feeds document pages over the center.

II. SPECIFICATIONS

A. RDF-C1

Item	Specifications	Remarks
Document pick-up	Automatic pick-up/delivery	
Document type	sheet (50 to 105 g/m²) one-sided or two-sided	See Note.
Document size	A5 to A3 139.7 to 432 mm in length; 182 to 297 mm in width	
Document orientation	Face up	Place the stack with the first page on top.
Document processing mode	'one-sided document' to 'one-sided copy', 'two-sided document' to 'one-sided copies', and image combination	See copier specifications for two-sided copy and reduced layout mode.
Document stack	5 mm max. in height (small size; about 50 sheets of 80 g/m²)	A5,B5R,A4,A4R,B5, STMT,LTR,LTR-R
	2 mm max. in height (large size; about 25 sheets of 80 g/m²)	B4,A3,LGL,11"X17"
Pick-up/Delivery tray capacity	50 sheets (small size), 25 sheets (large size); both of 80 g/m²	
Mixed sizes	A4 and A3; B5 and B4; A4-R and A5 LTR and 11"X17"; LTR-R and LGL; KTR and STMT	See copier specifications for mixed size mode.
Document size identification	Available (feeding direction only)	
Document feeding speed	15 mm/sec (pick-up) 800 mm/sec (feeding) 800 to 150 mm/sec (delivery)	
Document processing time	0.5 sec or less (A4 one-sided) 2.5 sec or less (A4 two-sided)	Represents time required for document replacement in continuous copying.

| Item	Specifications	Remarks
Power supply	24 VDC (from copier)	
Maximum power consumption	170 W or less	
Weight	12.5 kg (w/o Editor); 14.5 kg (w/ Editor)	
Dimensions (W X D X H) (mm)	616 X 513 X 149 (w/o Editor) 675 X 513 X 149 (w/ Editor)	
Operating conditions Temperature Humidity	As per copier	

You cannot process the following documents:
- OHP or transparent pages with a transparency of 80% or higher.
- pages with holes for filing.
- pages with curls or creases.
- pages with staples or clips.
- pages with cut-and-paste work.
- pages with carbon backs.

Note:
Do not process the same document page more than 30 times to protect against damage to the page.
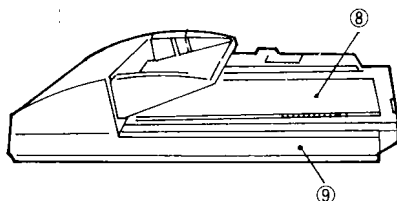
III. NAMES OF PARTS

A. External View
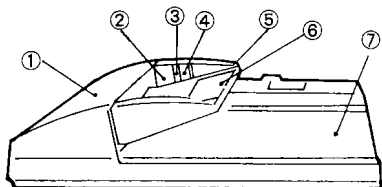
①	Top cover	④	DOCUMENT SET indicator	⑦	Body cover
②	Side guide unit	⑤	Document tray	⑧	Editor
③	Recirculating lever	⑥	Sub tray	⑨	Front cover

Figure 1-1   **Figure 1-2**

B. Cross Section
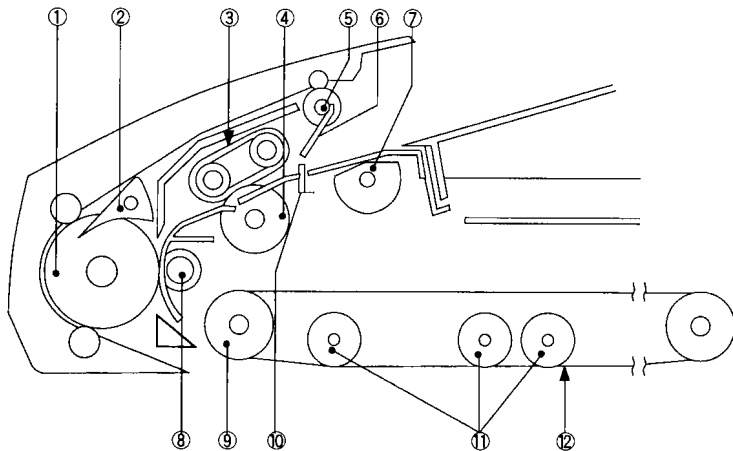
①	Delivery/Reversing roller	⑤	Delivery roller	⑨	Feeding belt drive roller
②	Paper deflecting plate	⑥	Paper holding plate	⑩	Paper stop plate
③	Separation belt	⑦	Pick-up roller	⑪	Holding roller
④	Feeding roller	⑧	Registration roller	⑫	Feeding belt

Figure 1-3

IV. OPERATING THE MACHINE

A. DOCUMENT SET Indicator

The DOCUMENT SET indicator goes ON when a document page is set on the document tray, and starts to flash in response to a jam.
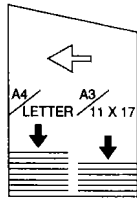

Figure 1-4

Operating the Machine

1) If you are processing A5 (B5R or larger) pages lengthwise, extend the document sub tray.
2) Set the side guide to suit the document size.
3) Place the stack with its first page on top on the document tray.
4) Set the copy mode on the copier.
5) Press the copier's COPY START key.

B. Warning Messages and Remedies

If the DOCUMENT SET indicator starts to flash while a document page is being fed, you should suspect a paper jam. Correct the problem as follows:

1) Remove the document from the document tray.
2) Open the RF's top cover, and remove the jam, if any; then, open the RDF to clear the warning message. Also, check the copyboard glass, and remove the document if found.

Note:
If the jam is in the copier, do not open the RDF to reset; remove the jam so that the copier's jam recovery mechanism automatically corrects the situation.

3) Put the pages back in order, and set them in the RDF.

C. Routine Work by the User

Instruct the user to clean the following at least once a week.

1. Copyboard Glass
Wipe it using a cloth moistened with water or alcohol; then, dry wipe it.

2. Feeding belt
Wipe it with a cloth moistened with water or alcohol.

3. Separation Belt, Feeding Roller
Use the copier's user mode.

If any part of the RDF is soiled, wipe it using a cloth moistened with a solution of mild detergent; then, dry wipe it to eliminate any residue.

I. BASIC CONSTRUC- TION

A. Outline of Electrical Circuitry

The machine's electrical mechanisms are controlled by the RDF controller PCB. The microprocessor on the PCB reads input signals from sensors as programmed in advance, and sends signals to drive DC motor, solenoids, clutches, LEDs, and other loads as necessary.
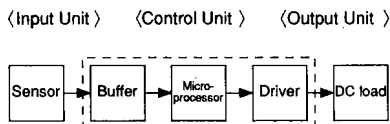
⟨Input Unit⟩   ⟨Control Unit⟩   ⟨Output Unit⟩

Figure 2-1

Figure 2-1 is a block diagram, showing the basic flow of signals. The buffer is used to prevent wrong operation of the microprocessor caused by electrical noises from external sources or to convert the voltage of the input signals from the sensors. The driver serves to amplify the output signals of the microprocessor used to drive the loads.

The mode selected on the copier is communicated to the machine, which in turn sends signals to the copier to communicate its condition.

All these signals are sent in serial (IPU) over two cables as shown in Figure 2-2.
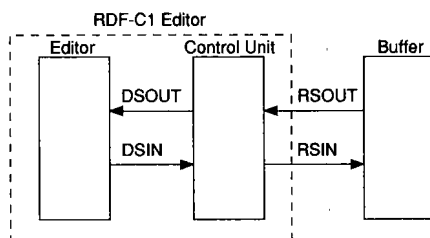

Figure 2-2

Any error in the transfer of signals activates the copier's self diagnosis, displaying 'EXX' on the copier's control panel.

Figure 2-3 is a block diagram, showing the relationships between the machine's major circuits and the copier.

The machine is powered by the copier; the power supplied by the copier is divided into 24 VDC and 5 VDC on the RDF controller PCB for various elements.
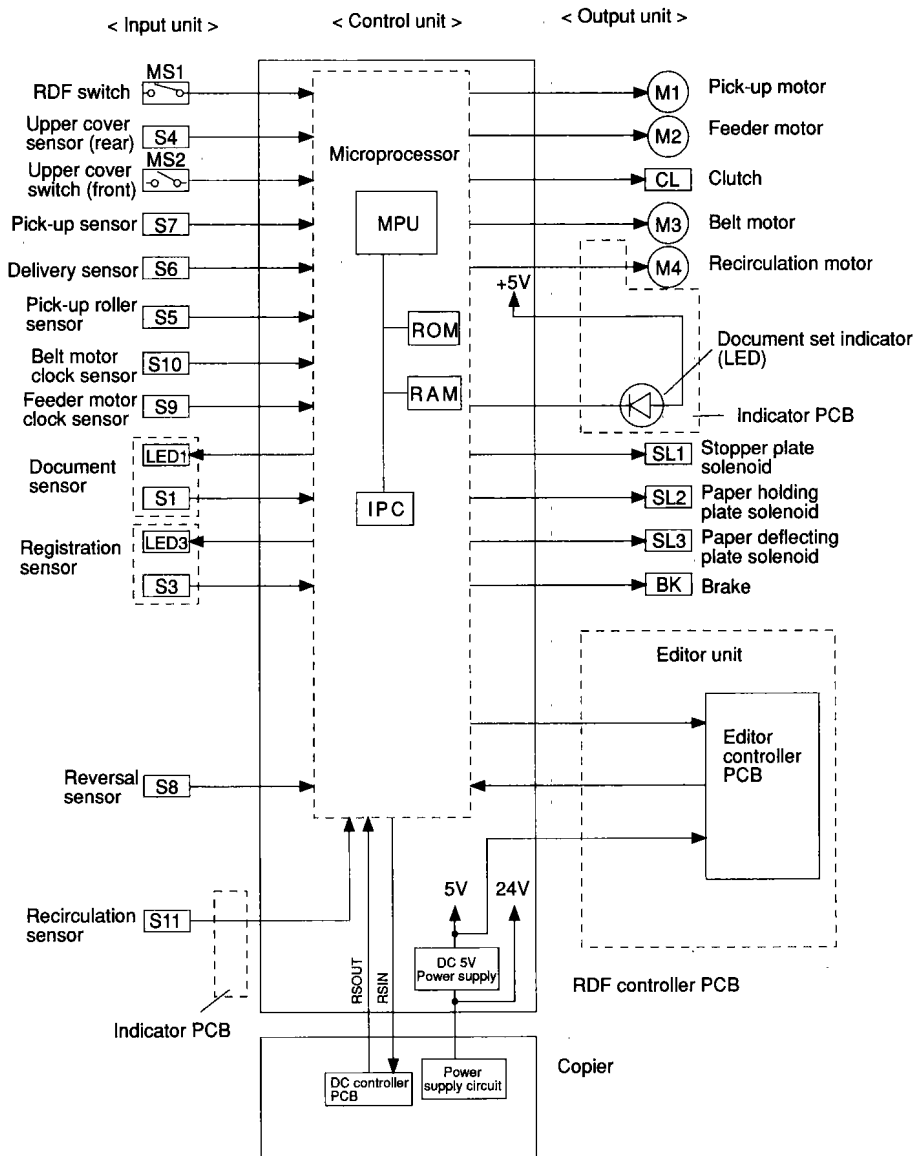
< Input unit >   < Control unit >   < Output unit >

RDF switch — MS1
Upper cover sensor (rear) — S4
Upper cover switch (front) — MS2
Pick-up sensor — S7
Delivery sensor — S6
Pick-up roller sensor — S5
Belt motor clock sensor — S10
Feeder motor clock sensor — S9
Document sensor — LED1, S1
Registration sensor — LED3, S3
Reversal sensor — S8
Recirculation sensor — S11

Microprocessor
MPU
ROM
RAM
IPC
+5V

Pick-up motor — M1
Feeder motor — M2
Clutch — CL
Belt motor — M3
Recirculation motor — M4
Document set indicator (LED)
Indicator PCB
Stopper plate solenoid — SL1
Paper holding plate solenoid — SL2
Paper deflecting plate solenoid — SL3
Brake — BK

Editor unit
Editor controller PCB

Indicator PCB

5V   24V

RSOUT   RSIN
DC 5V Power supply

RDF controller PCB

DC controller PCB   Power supply circuit

Copier

Figure 2-3 Electrical Circuit of RDF

CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)

B. Inputs to RDF Controller PCB (1/3)
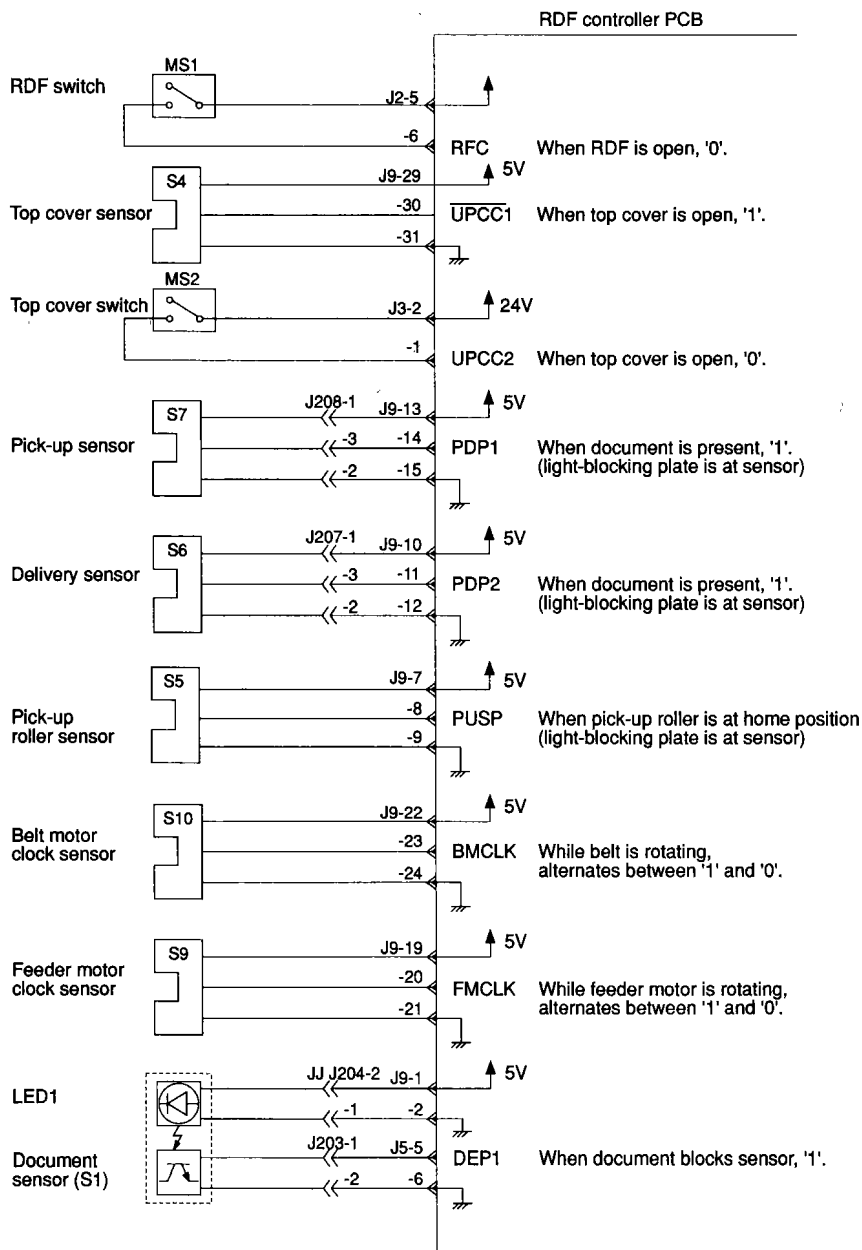
Figure 2-4

C. Inputs to RDF Controller PCB (2/3)

RDF controller PCB

LED3

J205-2 J9-5 5V

-1 -6

Registration
sensor S3

J212-2 J9-25 PDP3 When document blocks sensor,'1'.

-1 -26

S8

Reversal sensor

J209-1 J9-16 5V

-3 -17 PDP5 When document blocks sensor,'1'.

-2 -18

Recirculation
sensor

S11 J101-3 J8-3 5V

-2 -2 LDD When recirculation lever is
on topmost document,'0'.

-1 -1

Indicator PCB
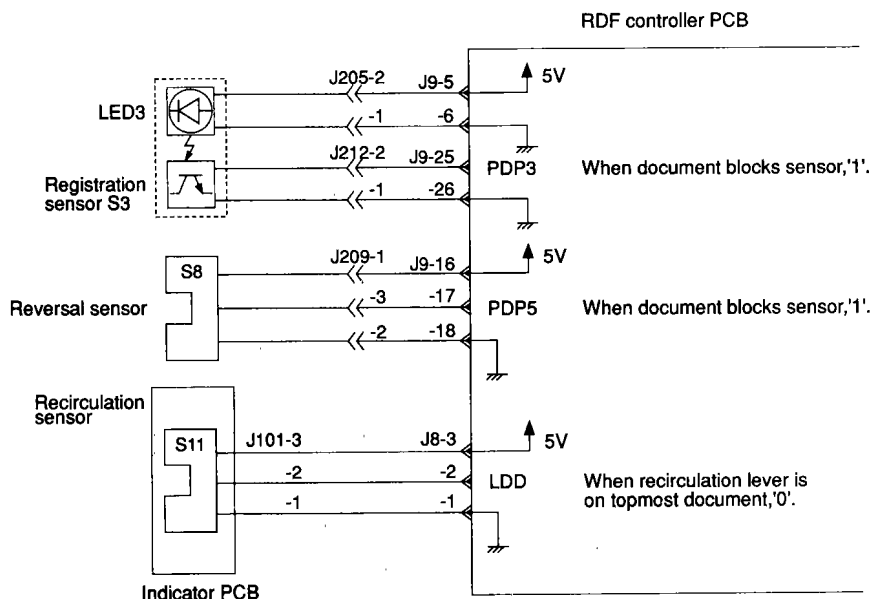
Figure 2-5

D. Inputs to RDF Controller PCB (3/3)
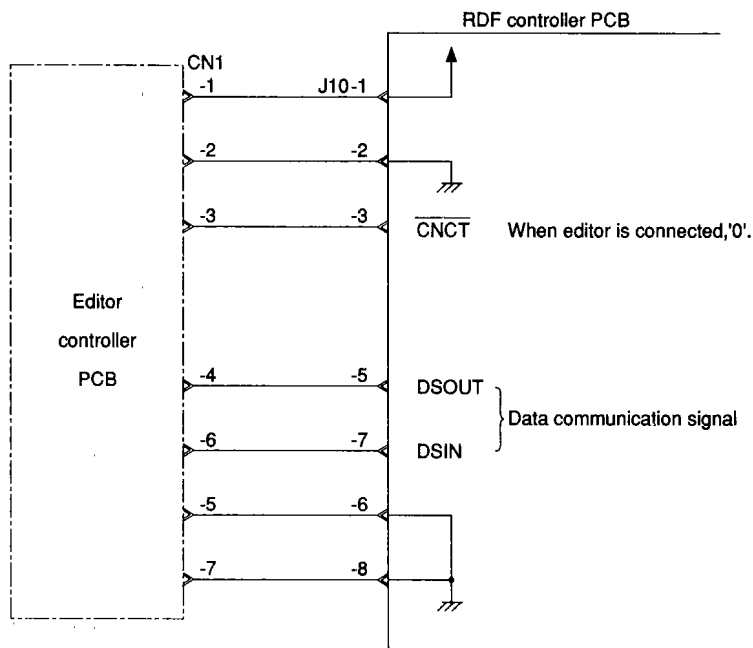
Figure 2-5a

E. Outputs from RDF Controller PCB

RDF controller PCB

Stopper plate solenoid — SL1 — J5-3 ↑ 24V
-4 STPSLD When '0', solenoid (SL1) goes ON. (stopper plate lowers)

Paper holding solenoid — SL2 — J5-1 ↑ 24V
-2 WSLD When '0', solenoid (SL2) goes ON. (paper holding plate lowers)

Paper deflecting plate solenoid — SL3 — J4-1 ↑ 24V
-2 DFSLD When '0', solenoid (SL3) goes ON. (paper deflecting plate and paper guide plate operate)

Pick-up motor — M1 — J12-1 PUMD When '1', pick-up motor (M1) goes ON.
-2

Feeder motor — M2 — J11-1 FMD When '1', feeder motor (M2) goes ON.
-2

Brake — BK — J6-1 ↑ 24V
-2 BKD When '0', brake (BK) goes ON. (stops movement of feeding belt)

Belt motor — M3 — J7-1 } See p. 2-28.
-2

Clutch — CL — J13-1 ↑ 24V
-2 CLD When '0', clutch (CL) goes ON.

Indicator PCB

Recirculation motor — M4 — J102 -1 / J01 J8 -5 -5 ↑ 5V
-2 / J101 -6 -6 RMD When '0', recirculation motor (M4) goes ON.

J101 J8 -3 -3 ↑ 5V

DOCUMENT SET indicator LED — LED101 / LED102 — J101 J8 -4 -4 DSD When '0', DOCUMENT SET indicator goes ON. (LED11 and LED 12 go ON)

Figure 2-6

II. BASIC MECHANISMS

A. Outline

The machine uses three motors and one clutch for document pick-up and delivery.

The pick-up motor (M1) is used to pick up the pages.

The feeder motor (M2) serves to deliver or reverse the pages.

The belt motor (M3) forwards and stops the pages to and on the copyboard glass, and delivers them.

The clutch (CL) coordinates the drive systems of the feeder motor (M2) and the belt motor (M3), thereby eliminating relative differences in speed between the two.

Figure 2-7

Copy Modes Selected on Copier

a. 'one-sided document' to 'one-sided copy'
b. 'two-sided document' to 'one-sided copies'
c. '2 small-size documents' to 'image combi-
   nation copy'
d. 'one-sided documents' to 'two-sided copy'*
e. 'two-sided document' to 'two-sided copy'*
   *With automatic duplexing unit in use.

The selected mode is communicated by the copier to the RDF in the form of electrical signals.

The RDF, in response to the instructions from the copier, operates as follows:

1. One-Sided Document Mode

The RDF picks up the document pages starting with the bottommost (last) page, and places them on the copyboard glass.

When its one side has been copied, the page is moved from the copyboard glass and delivered to the document tray.

Document

Document tray

Pick-Up 1

Pick-Up 2

Copying

Delivery 1

Delivery 2
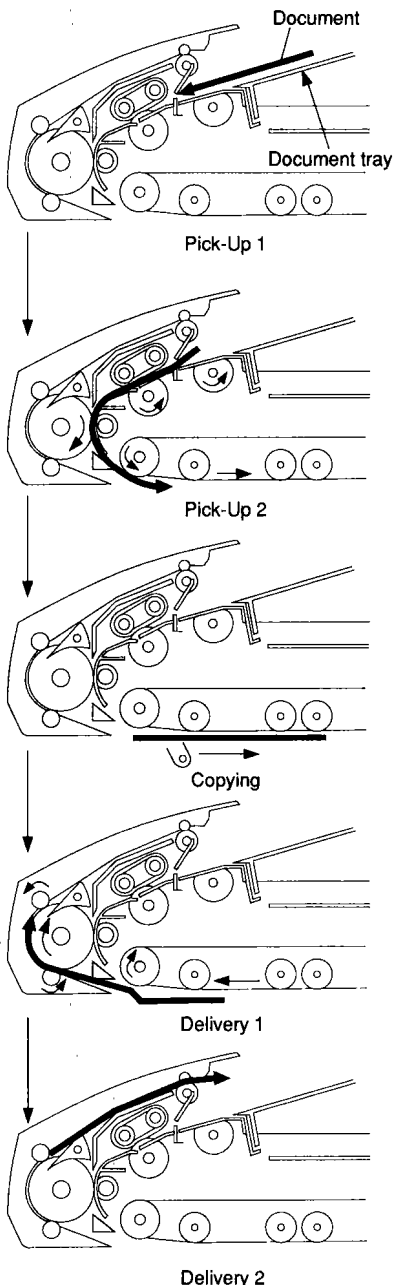
Figure 2-8 One-Sided Document Mode

2. Two-Sided Document Mode

When the face (1st side) and the back (2nd side) of a document page is to be copied, the page is reversed automatically to copy both sides of the page.

Pick-up

Scanner   2nd side copying

1st side pick-up

Reversal from 2nd side to 1st side

Reversal from 1st side to 2nd side

1st side copying

Delivery
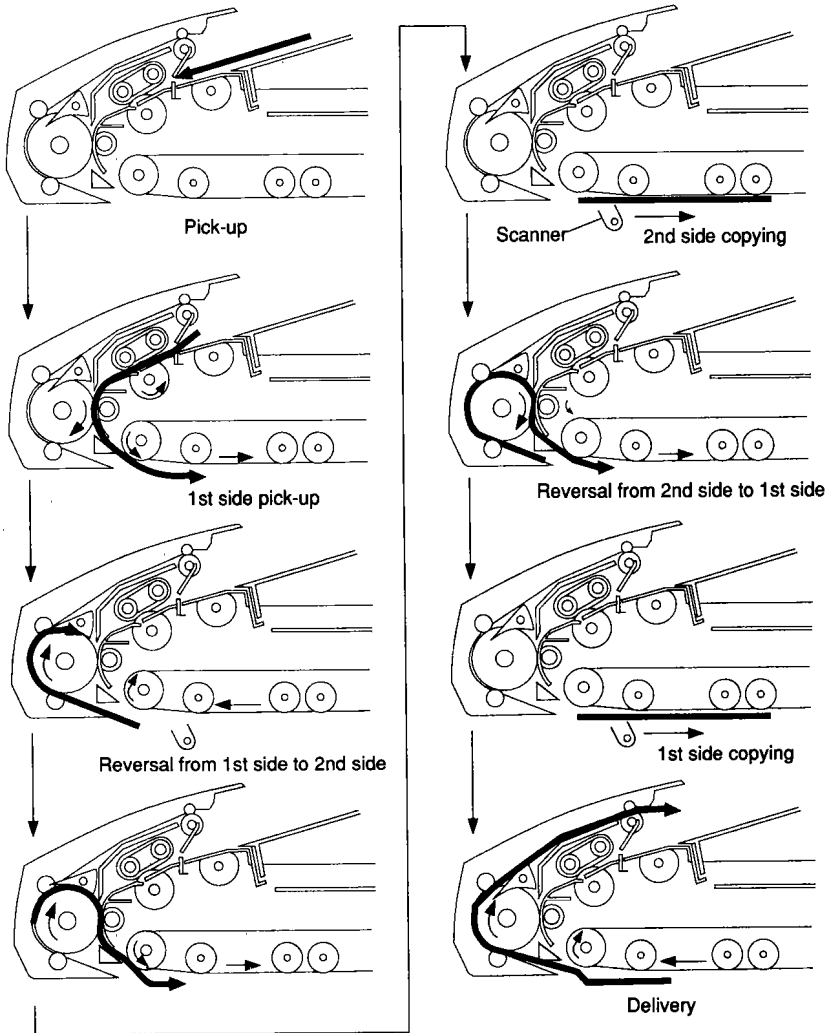
Figure 2-9 Two-Sided Document Mode

3. Image Combination Mode

When copying two document pages in image combination, the two pages are placed side by side on the copyboard. See Table 2-1 for the sizes that may be used in the mode.

A/B size	INCH size
A5	STMT
B5	LTR
A4	

Table 2-1

2nd document pick-up

2nd document picked up while 1st document is being reversed, thereby reordering documents.

2nd and then 1st document delivered in sequence.

Copying

1st document pick-up

Reversal from 1st side to 2nd side

1st document   2nd document

2nd document delivered after delivery of 1st document.
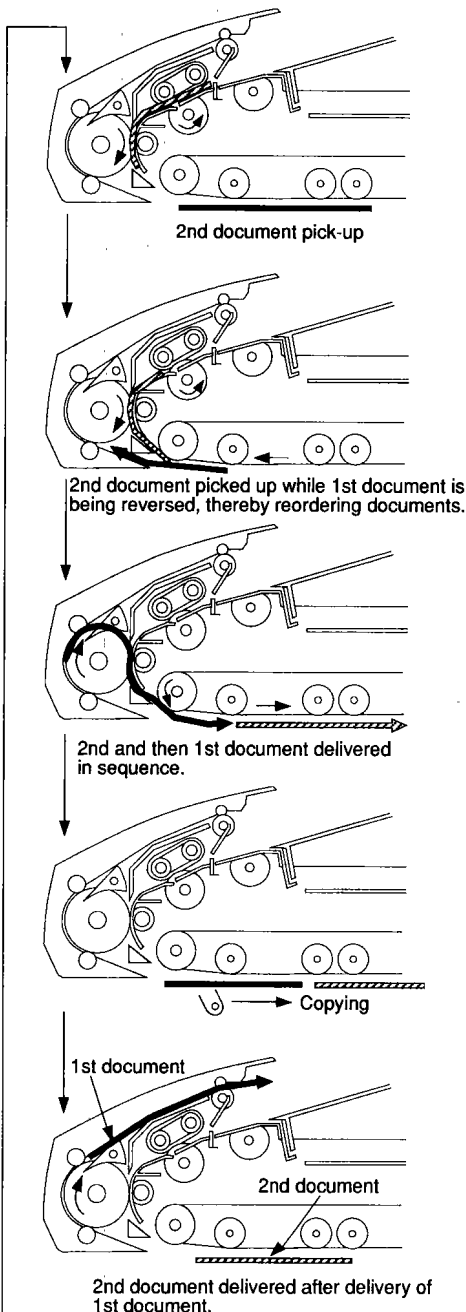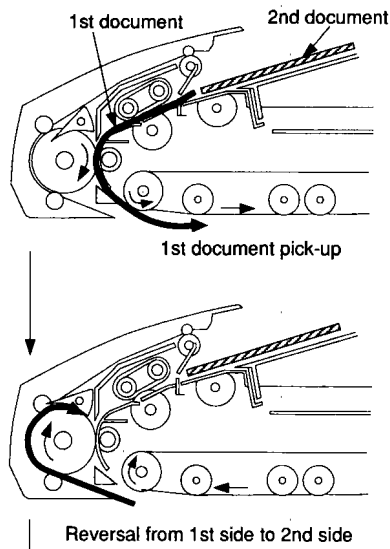
Figure 2-10 Image Combination Mode

4. Recirculation Mode

Using the mode, you can have the machine to sort the copies. Make copies of the first document to produce the first set; then, repeat the procedure until you have produced all the sets.

1) Place the document pages on the document tray.
2) Select the copier's sort mode.
3) Enter how many sets you want using the copier's keypad.
4) Press the COPY START key.

B. Identifying the Document

1. Outline

The machine has the following identification modes:

① The presence/absence of a document on the document tray.

② The size of the document on the document tray.

③ The number of document pages to make sure all pages on the document tray have been copied.

④ The leading edge of the last document page.

2. Presence/Absence of Document

The presence/absence of a document on the document tray is checked by the document sensor (S1).

A document placed on the document tray blocks the light from LED1, causing the document sensor (S1) to generate the document detection signal (DEP1).

The DOCUMENT SET indicator (LED101, LED102) goes ON in response to detection of a document.

LED1
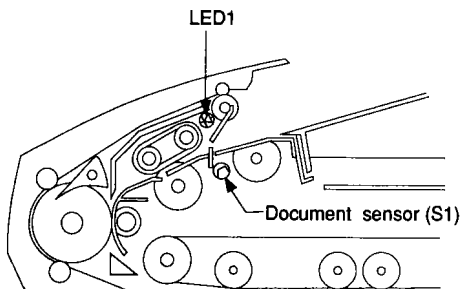
Document sensor (S1)

Figure 2-11

3. Size of Document

The size of the document is checked by the registration sensor (S3) while the document is moving next to the sensor.

From the measurements, any of the standard sizes (Tables 2-2, -3) is selected as being of the size of the document.

Registration sensor (S3)
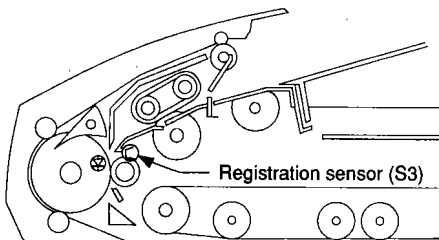
Figure 2-12

Standard	Length (mm)
A5	Less than 175
B5	176 to 203
A4	204 to 250
B5R	251 to 290
A4R	291 to 323
FOOLS CAP	324 to 359
B4	360 to 384
Computer form	385 to 415
A3	More than 416

A/B-configuration RDF

Table 2-2

Standard	Length (mm)
STMT	Less than 163
LTR	164 to 260
LTR-R	261 to 310
FOOLS CAP	311 to 351
LGL	352 to 376
Computer form	377 to 427
11"X17"	More than 428

INCH-configuration RDF

Table 2-3

4. Number of Documents

In 'one-sided document to one-sided copy', 'two-sided document to one-sided copies', or 'two-sided document to two-sided copy' mode, you need not specify the number of document pages; the copies will be made in sequence.

In 'one-sided documents to two-sided copy' mode, however, the machine must know if the number of document pages is an odd or even number.

For this reason, the machine first picks up and delivers the pages without copying, allowing the registration sensor (S3) to count the pages.

Note:
The machine picks up the last page of a document stack first and, for this reason, it must decide whether the last page must be copied on the face or back of the sheet.

If the document pages were fed and copied without rules as illustrated in Figure 2-13, the top page of the odd-number document would be copied on the back of the sheet.
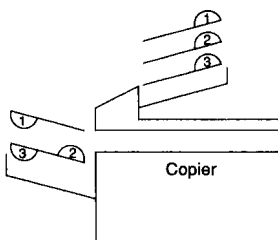
Further, since the machine picks up the document and delivers it to the same document tray, it must distinguish pages that have been copied and that are to be copied.

To distinguish the two, the machine places the recirculating bar on top of the stack. The bar falls through the document tray when the last page is picked up, allowing the recirculation sensor (S11) to identify the pick-up of the last document page and to generate the recirculation signal (LDD).

Recirculation motor(M4)
Recirculation sensor (S11)
Document
Recycle lever
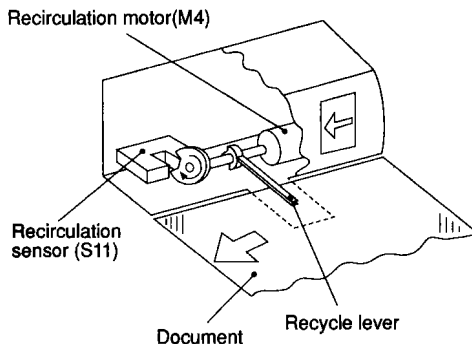
Figure 2-14

Copier

Figure 2-13

5. Trailing Edge of Last Document Page

Some copiers, those with a long paper path (from cassette to drum), pick up copy paper early to speed up copying operation. The machine can accommodate such a change in speed if the length of the document pages is 148 to 250 mm (A/B) or 140 to 260 mm (INCH).

Without additional mechanisms, however, pick-up operation would be over before picking up and placing the last document page on the copyboard glass.

To eliminate such a problem, the recirculation sensor (S11) checks the trailing edge of the last document set on the document tray and sends the last document detection signal (LDD) to the copier.

Note:
Keep note of the sizes shown in Table 2-4. The use of non-standard sizes can cause the recirculation sensor (S11) to identify the trailing edge of the last document, causing the copier to pick up one too many sheet of copy paper; this is particularly true of the sizes shown in Table 2-4.

Configuration	Document size (feeding length; mm)
AB	220 to 250
INCH	220 to 260

Table 2-4

When using any of the non-standard sizes, shift bit 5 of the DIP switch (DIPSW1) on the RDF controller PCB to ON. This will delay the copier's pick-up operation, ensuring that only as many sheets of copy paper are picked up as there are document pages.

C. Pick-Up Operation

1. Sequence of Operations

When you press the COPY START key with a document on the document tray, the machine operates as follows:

Documents

① Document Jogging

The pick-up motor (M1) goes ON to rotate the pick-up motor, thereby jogging the document pages to facilitate pick-up.
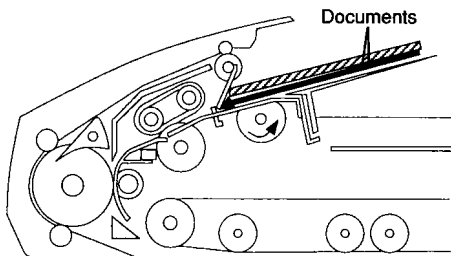
Figure 2-15

② Pick-Up Separation

The paper stop plate is lowered to lower the paper holding plate on the document. When the document is picked up, it is moved through the separation belt and the feeding roller to prevent double feeding.

Paper holding plate
Separation belt
Paper stopper plate
Feeding roller
Pick-up Sensor(S7)

Note:
The paper holding plate is always lowered when the first document page is picked up. The paper holding plate is lowered for the second and subsequent pages only when pick-up operation fails as when the pick-up roller slips, i.e., the pick-up sensor (S7) does not detect a document within 500 ms after the pick-up motor has gone ON.
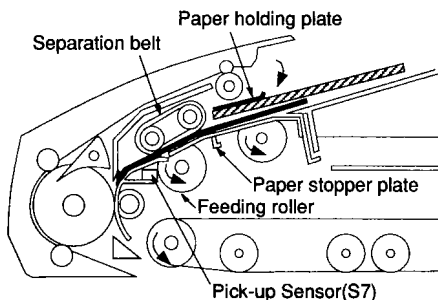
Figure 2-16

③ Arching

The document is butted against the registration roller to form an arch.

Registration roller
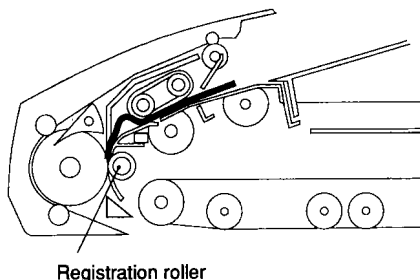
Figure 2-17

④ Feeding

The feeding belt and the registration and feeder rollers are rotated to forward the document.

Feeding roller

Registration roller   Feeding belt
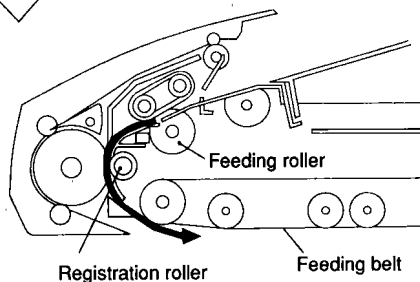
Figure 2-18

⑤ 2nd Pick-Up

The scanner moves forward when the document reaches a specific point on the copyboard glass. At the same time, if the documents are of a small size, the second document is picked up.

If the pages are of a large size, the second pick-up takes place after the first page has been delivered.
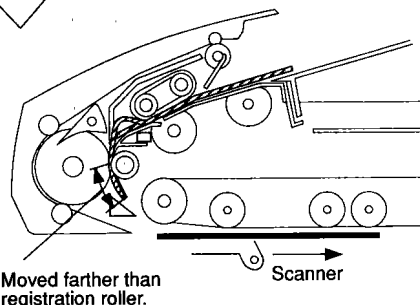
Note:

The second and subsequent small-size pages are moved farther than the registration roller to speed up feeding.

Moved farther than registration roller.   Scanner

Figure 2-19

2. Pick-Up Sequence (A4, 2 pages)
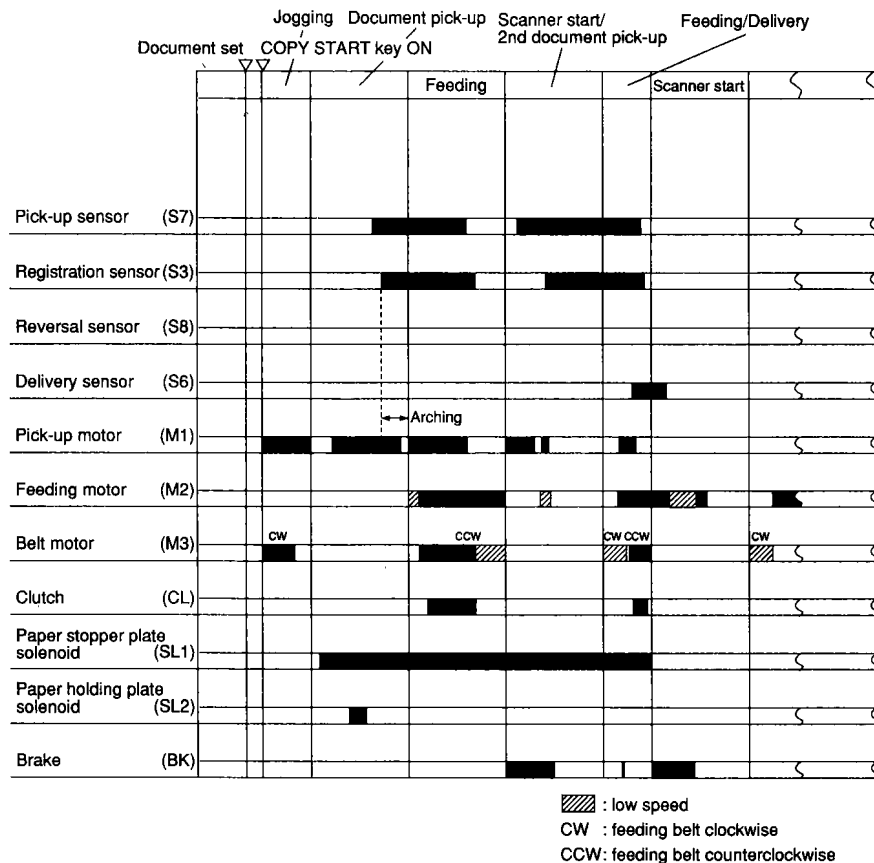
Figure 2-20

D. Reversing

1. Sequence of Operations

Document pages may be reversed from the first to second side or from second to first side. The following discusses reversal from first to second side; the same mechanism is used for reversing from second to first side.

① 1st Side Pick-Up

The document page is fed from the document tray to the copyboard glass.
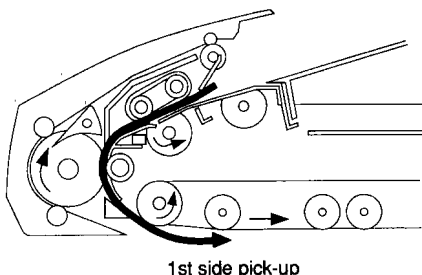
1st side pick-up

Figure 2-21

② Reversal/Feeding

The feeding belt is moved clockwise to reverse the page on the copyboard glass.

Paper deflecting plate
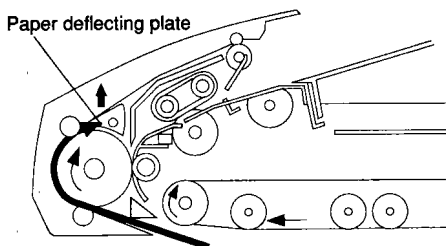
Reversal from 1st side to 2nd side

Figure 2-22

③ Switching between Reversal and Delivery

The paper deflecting plate solenoid (SL3) goes ON to open the paper deflecting plate, thereby moving the document·page to the copyboard glass. The operation is considered to have reversed the page.

The scanner starts to move forward when the second document page is set on the copyboard glass.

The document page is reversed again while the scanner is moving in reverse, thereby setting the first side on the copyboard glass.

The document page is delivered when its first side has been copied.
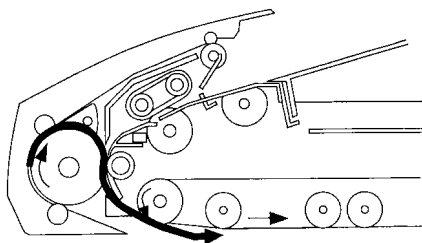
Figure 2-23

2. Sequence of Reversal Operations

2nd side copying   1st side copying

| 1 st side pick-up | 1 st side reversal | Reversal/Feeding |

Pick-up sensor (S7)

Registration sensor (S3)

Reversal sensor (S8)

Delivery sensor (S6)

Pick-up motor (M1)

Feeding motor (M2)

Belt motor (M3)

Paper deflecting plate solenoid (SL3)

Clutch (CL)

Brake (BK)
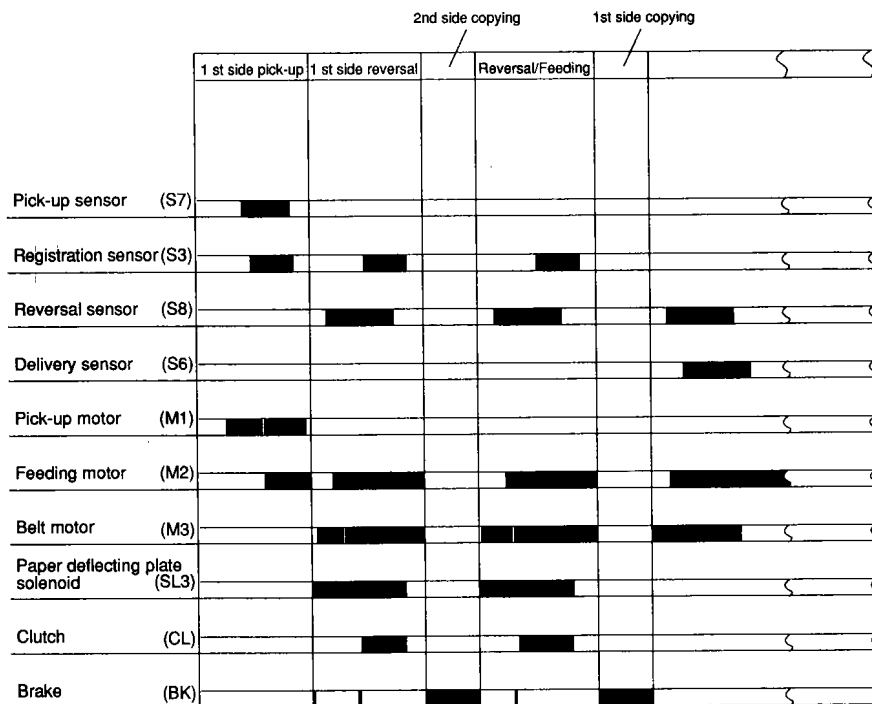
CW : feeding belt clockwise
CCW : feeding belt counterclockwise

Figure 2-24

E. Image Combination Mode

1. Sequence of Operations

When you have selected image combination mode and pressed the COPY START key, the document pages are picked up as follows:

Since the RDF picks up the last document page first, the machine reorders the pages, taking advantage of its reversal mechanism.

① 1st Page Pick-Up

The first document page is picked up and stopped on the copyboard glass. For details, see steps 1 through 4 of "C. Pick-Up."

4th document
3rd document
2nd document
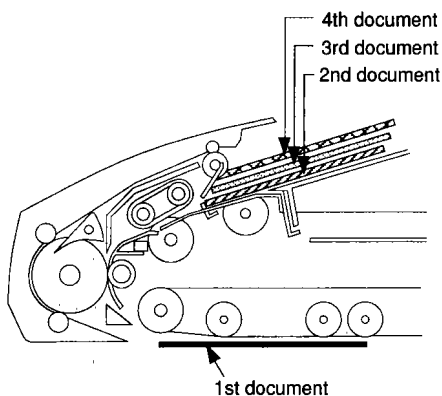
1st document

Figure 2-25

② 1st Page Feeding

The feeding belt is moved clockwise, thereby moving the first document page to the delivery/reversing roller.

Delivery/reversing roller 1st document
Feeding belt

Figure 2-26

CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)
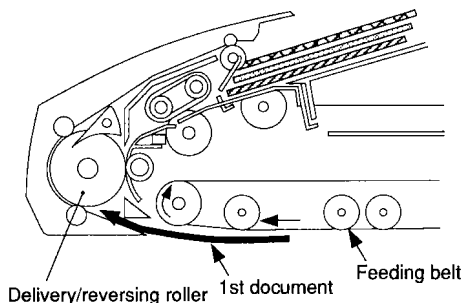
③ Switching Between 1st Page Reversal/ Delivery

The paper deflecting plate solenoid (SL3) goes ON to open the paper deflecting plate, thereby moving the first document to the copyboard glass once again.

Paper deflecting plate
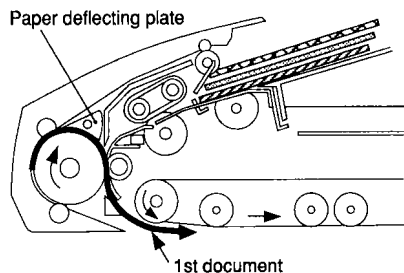
1st document

Figure 2-27

④ 2nd Page Separation/1st Page Feeding

The paper deflecting solenoid (SL3) goes ON to open the paper deflecting plate.

The second document page is picked up and stopped at the registration roller. At the same time, the feeding belt is moved clockwise to move the first document page to the delivery/reversing roller.

2nd document
Paper deflector
Registration roller
Delivery/reversing roller   1st document   Feeding belt
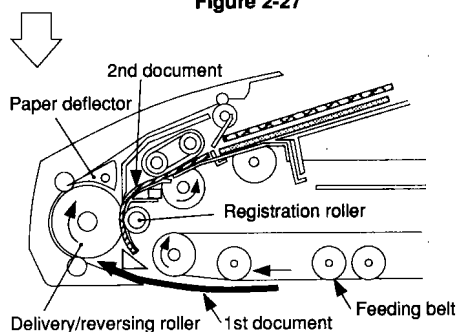
Figure 2-28

⑤ 1st/2nd Page Simultaneous Feeding

The clutch (CL) goes ON to eliminate the relative difference in speed between the delivery/feeding roller and the feeding belt, and two document pages are fed simultaneously.

At the time, the order of the document pages is changed, the two pages are overlapped for interval adjustment.

Delivery/reversing roller   Feeding belt

Figure 2-29
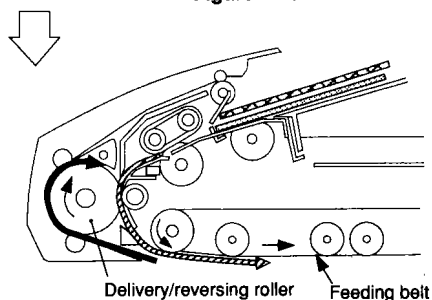
Overlapping documents
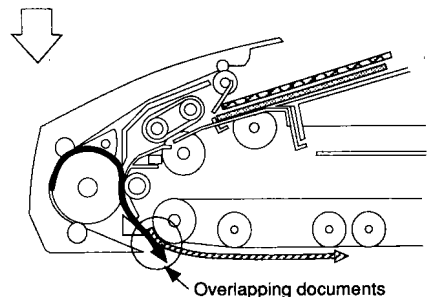
Figure 2-30

⑥ Adjusting the Page Interval

The clutch (CL) goes OFF, and the feeding belt is moved counterclockwise slowly; as a result, the two overlapping pages are separated.

Feeding belt

Stationary

Overlapping documents
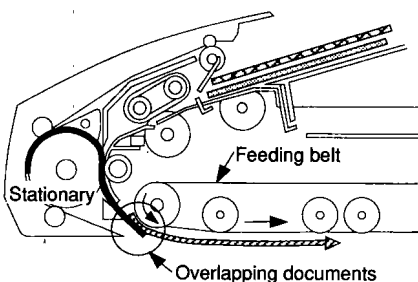
Figure 2-31

⑦ Feeding

After the interval of the two document pages is adjusted, the clutch (CL) goes ON to eliminate the relative difference in speed between the delivery/reversing roller and the feeding belt. The two document pages are then moved to the copyboard glass.

Feeding belt

Delivery/reversing roller — → ← Paper gap
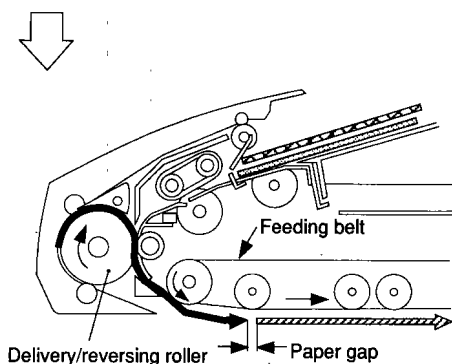
Figure 2-32

⑧ 1st Page Delivery

After a copy has been made, the feeding belt is moved clockwise slowly; the first document page is lead into the delivery/reversing roller.

Note:
At the time, the leading edge of the second document page moves to the index of the horizontal size plate and stops.

Feeding belt

Delivery/reversing roller   1st document   2nd document

Figure 2-33

     CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)
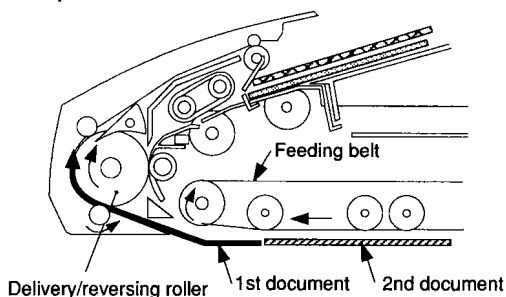
⑨ 3rd Page Separation

The third page is picked up and stopped at the registration roller.

3rd document

Registration roller
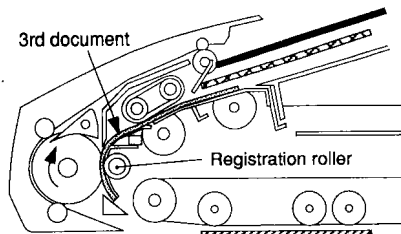
Figure 2-34

⑩ 2nd Page Feeding

The feeding belt is moved clockwise slowly, and the second page is lead to the delivery/reversing roller.

Delivery/reversing roller

Feeding belt

2nd document
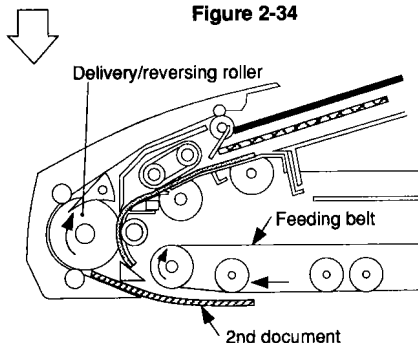
Figure 2-35

⑪ 2nd Page Delivery/3rd Page Pick-Up

The clutch (CL) goes ON to eliminate the relative difference in speed between the delivery/reversing roller and the feeding belt. The second page is delivered, and the third page is picked up and stopped on the copyboard glass.

Thereafter, steps ① through ⑩ are repeated for the remaining pages.

If there is no third or fourth document page, the second page is delivered following the delivery of the first page.

2nd document

Feeding belt

Delivery/reversing roller   3rd document

Figure 2-36
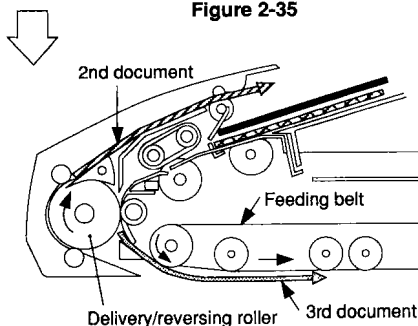
1st document
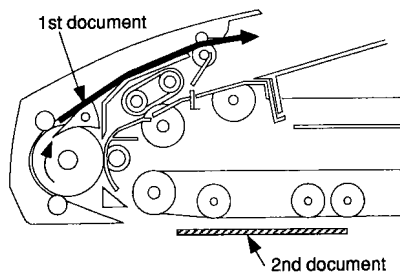
2nd document

Figure 2-37

2. Sequence of Operations in Image Combination Mode

*1 paper interval adjustment period   ▨▨▨ : low speed
CW   : feeding belt clockwise
CCW : feeding belt counterclockwise
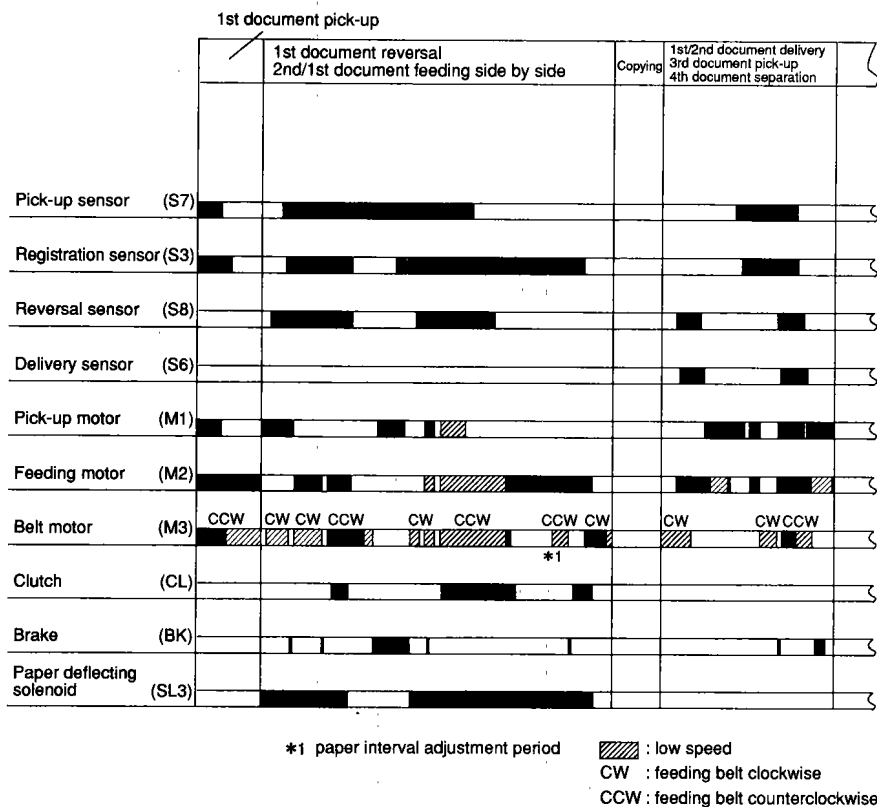
Figure 2-38

F. Delivery

1. Sequence of Operations

The document page on the copyboard glass is delivered to the document tray as follows:

① Delivery by Feeding Belt

The feeding belt is moved clockwise to deliver the document page to the copyboard glass.

Feeding belt

Scanner
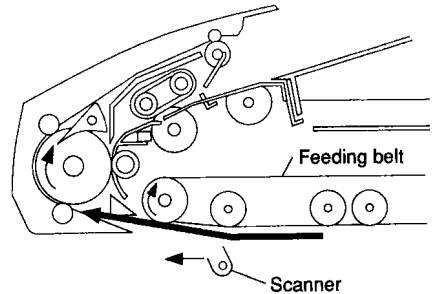
Figure 2-39

② Delivery by Delivery/Reversing Roller

The document page delivered by the feeding belt is moved between the delivery/reversing roller and the feeding roller. Small-size document pages are fed in pairs.

Note:
When the leading edge of a document page reaches a point 15 mm from the reversal sensor (S8), the feeding belt moves counterclockwise to prepare for the next pick-up.
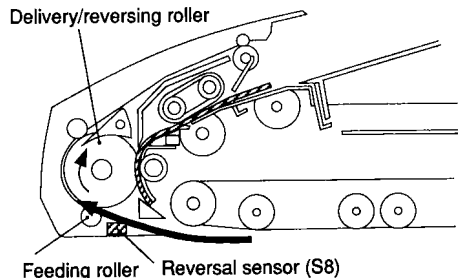
③ Switching between Delivery and Reversal

The paper deflecting plate solenoid (SL3) is OFF, so that the paper deflecting plate is closed; the condition moves the document page to the document tray.

After pick-up, the document page is sent to the copyboard glass.

Delivery/reversing roller

Feeding roller   Reversal sensor (S8)

Figure 2-40

Paper deflecting plate   Document tray
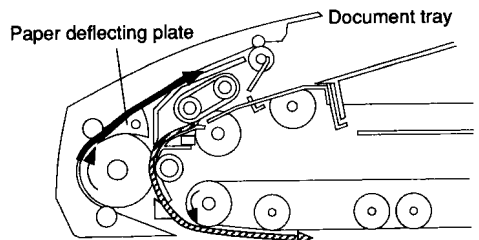
Figure 2-41

④ Delivery to Document Tray

The feeder motor switches to low speed while the trailing edge of the document page is being discharged to the document tray, thereby slowing down the delivery speed.

Scanner
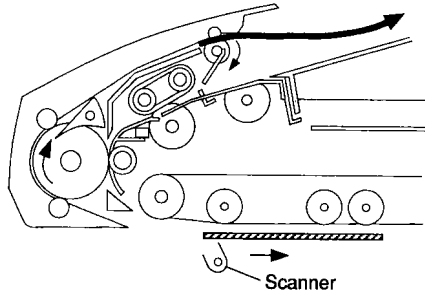
Figure 2-42

2. Sequence of Operations for Large Size and Mixed Size Mode (2nd pick-up/delivery)

1st document delivery   2nd document copying

2nd document pick-up
2nd document separation

2nd document delivery

Pick-up sensor	(S7)	
Registration sensor	(S3)	
Reversal sensor	(S8)	
Delivery sensor	(S6)	
Pick-up motor	(M1)	Arching
Feeding motor	(M2)	
Belt motor	(M3)	CCW CW
Clutch	(CL)	
Brake	(BK)	

▨ : low speed
CW : feeding belt clockwise
CCW : feeding belt counterclockwise

Figure 2-43

    CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)

3. Sequence of Operations for Small Size (continuous pick-up/delivery)

			2nd document delivery/ 3rd document pick-up		3rd document delivery/ 4th document pick-up			
		Scanner forward/3rd document separation		scanner forward/4th document separation				
		2nd document copying				3rd document copying		
Pick-up sensor	(S7)							
Registration sensor	(S3)							
Reversal sensor	(S8)							
Delivery sensor	(S6)							
Pick-up motor	(M1)							
Feeding motor	(M2)							
Belt motor	(M3)	CCW		CW	CCW		CW	CCW
Clutch	(CL)							
Brake	(BK)							

CW : feeding belt clockwise
CCW : feeding belt counterclockwise

Figure 2-44

4. Sequence of Operations for Small Size (delivery)

		Staggered delivery/pick-up		Document delivery/Document separation		
				Copying		
Pick-up sensor	(S7)					
Registration sensor	(S3)					
Reversal sensor	(S8)					
Delivery sensor	(S6)					
Pick-up motor	(M1)					
Feeding motor	(M2)					
Belt motor	(M3)	CW	CCW			
Clutch	(CL)					
Brake	(BK)					
Paper stopper plate solenoid	(SL1)					

▨▨▨ : low speed
CW : feeding belt clockwise
CCW : feeding belt counterclockwise
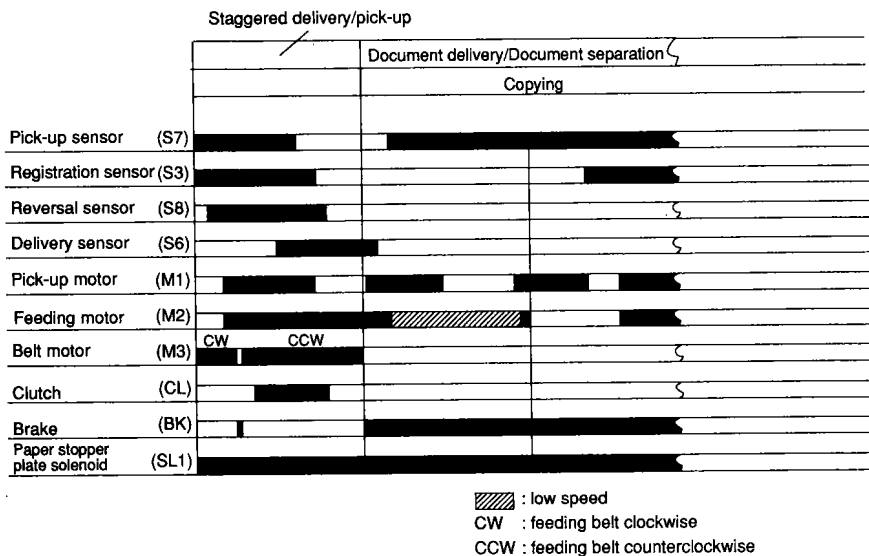
Figure 2-45

G. Controlling the Belt Motor

1. Outline

The belt motor (M3) is controlled by the microprocessor on the RDF controller PCB.

Belt motor counterclockwise rotation (pick-up) ----►
Belt motor clockwise rotation (delivery)   ——►

Figure 2-46

       CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)
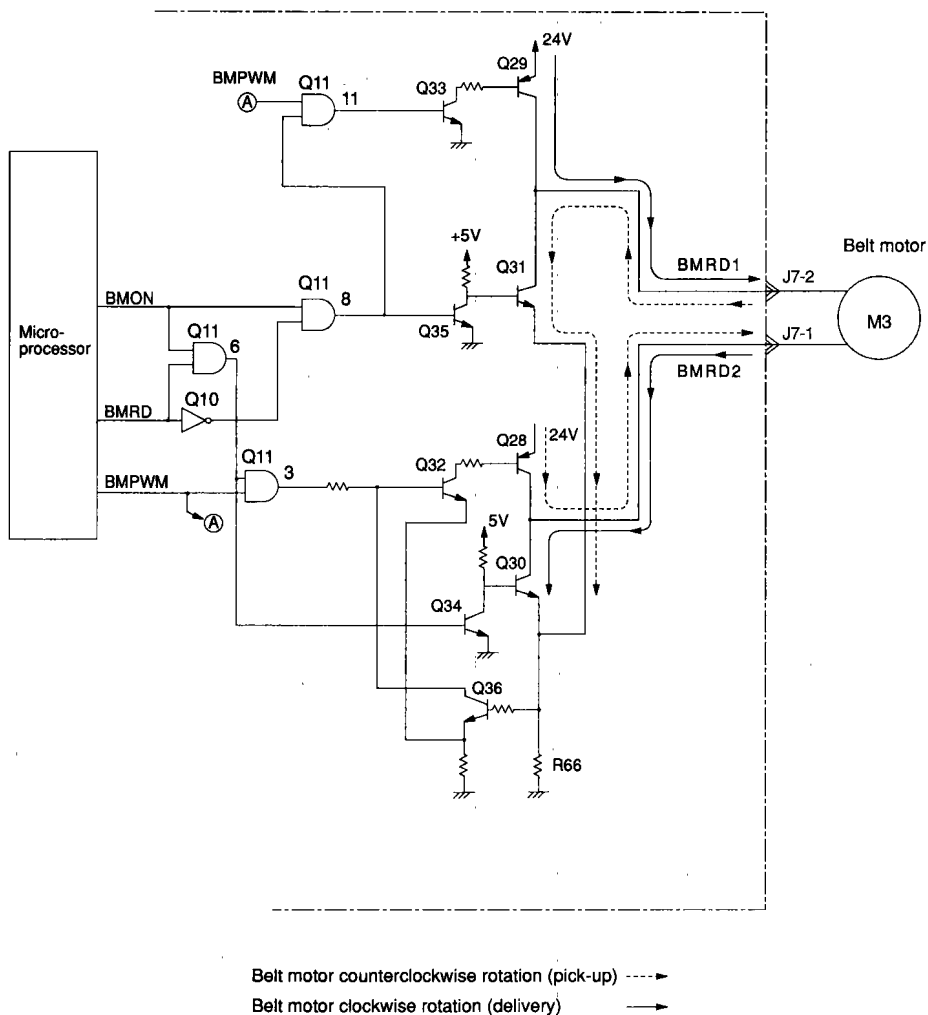
a. Relationship between Belt Motor Drive Signal (BMON), Belt Motor Rotation Signal (BMRD), Belt Motor Pulse Signal (BMPWM), and the Feeding Belt

Belt motor drive signal (BMON)	Belt motor rotation signal (BMRD)	Belt motor pulse signal (BMPWM)	Feeding belt
'1'	'1'	pulse	Moves to pick-up rotation (counterclockwise).
'1'	'1'	'0'	Moves to pick-up direction (counterclockwise) by inertia.
'1'	'0'	pulse	Moves to delivery direction (clockwise).
'1'	'0'	'0'	Moves to delivery direction (clockwise) by inertia.
'0'	'1'/'0'	'1'/'0'	Stops.

Table 2-5

b. Controlling the Overcurrent in the Belt Motor

Depending on the type and condition of the document pages, an overcurrent may flow into the belt motor. An overcurrent control circuit is provided to prevent excess loads on the power supply circuit occurring when an overcurrent continues while the belt is moving clockwise.

H. Detecting a Document Jam

S1 : Document sensor   S6 : Delivery sensor   S11 : Recirculation sensor

S3 : Registration sensor   S7 : Pick-up sensor   MS1 : RDF switch

S4 : Top cover sensor   S8 : Reversal sensor   MS2 : Top cover switch
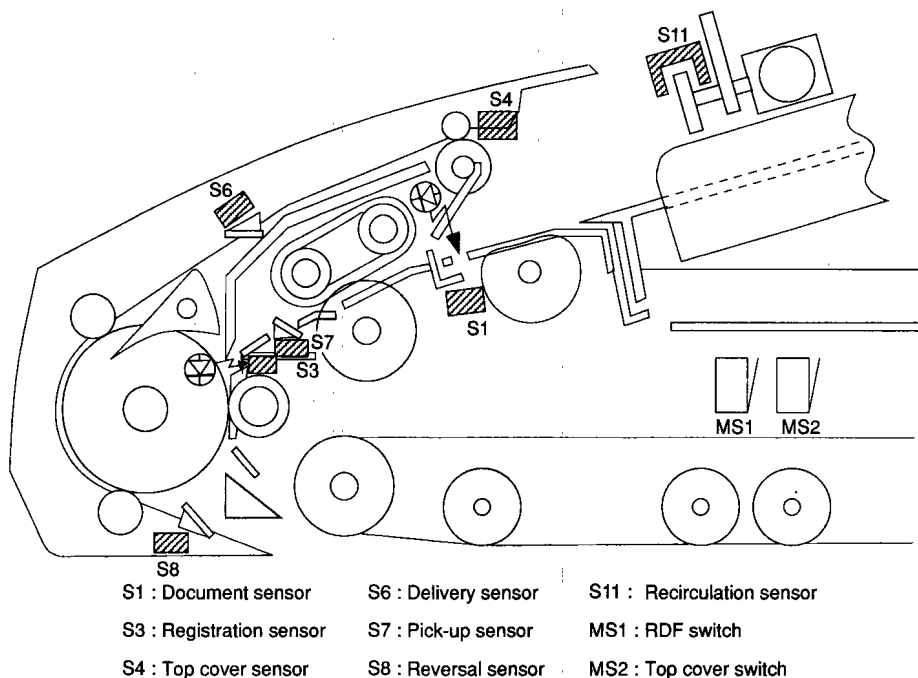
Figure 2-47

The microprocessor on the RDF controller PCB is programmed in advance for detection of document jams. The sensor identifies the occurrence of a jam based on the presence/absence of paper at the sensor.

Jams are identified under the conditions shown in Table 2-6.

When a jam occurs, the nature of the jam is communicated to the copier in the form of a code. Some copiers allow you to check the code in service mode.

	Jam type	Sensor	Description	Code
Pick -up	Document forced out	S1, S7	S1 does not detect the leading edge of the docu-ment 1500 ms after the pick-up motor (M1) has gone ON with S1 being OFF.	01H
	Pick-up delay	S7	S7 does not detect the leading edge of the docu-ment 1500 ms after the pick-up motor (M1) has gone ON.	02H
	Registration delay	S3, S7	S3 does not detect the leading edge of the docu-ment 350 ms after S7 has detected the leading edge of the document.	03H

Table 2-6 (a)

    CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)

	Jam type	Sensor	Description	Code
Pick-up	Double feeding	S3	S3 is ON even after the 1st document has been set on the copyboard glass.	06H
	Document leading edge retreat	S3	S3 has not detected the leading edge of the document at time of document pick-up.	08H
Reversal	Reversal delay 1	S8	S8 does not detect the leading edge of the document 140 mm or 225 ms after the belt motor (M3) has started to move clockwise at time of document reversal and delivery.	11H
	Reversal stationary	S8	S8 does not detect the trailing edge of the document after a check on a reversal delay at time of document reversal and delivery.	12H
	Reversal delay 2	S8	S8 does not detect the preceding document 50 mm after the belt motor has started to rotate counterclockwise because the document being delivered is brought back together with the document picked up at time of document delivery/pick-up.	13H
	Power-on at reversal	S8	S8 is ON when the document is being reversed.	20H
	Reversal pick-up delay	S3	S3 does not detect the leading edge of the document that has been reversed 100 mm or 300 ms after S8 has detected the leading edge of the document at time of document reversal.	21H
	Reversal pick-up stationary	S3	S3 does not detect the trailing edge of the document at a point 'document size + 180 mm" after S8 has gone ON.	23H
Delivery	Delivery delay	S6	S6 does not detect the leading edge of the document 100 mm or 250 ms after S8 has detected the leading edge of the document at time of document delivery.	41H
	Delivery stationary	S6	S6 does not detect the trailing edge of the document 100 mm or 250 ms after a check on reversal stationary condition.	42H
	RDF open	MS 1	The RDF is opened while being in operation.	81H
	Top cover open	MS 2, S4	The top cover is opened while the RDF is in operation.	82H
	Document circulation fault	S1	S1 does not detect the document delivered to the document tray.	83H
	Jam document	S6, S3, S8, S7	Any of the sensors (S6, S3, S8) detects a document when pick-up starts; the sensors include S7 if the paper stopper plate is up.	84H
	Document	S8	A document is left behind and detected on the copyboard glass at time of 1st document pick-up.	88H
	Circulation bar idle operation (2nd and subsequent circulation)	S11	The circulation bar swings idly without coming to contact with the document during second or subsequent circulation.	89H

Table 2-6 (b)

Note:
1. Jam and Operation
   The RDF is stopped immediately upon detection of any of the jams listed in Table 2-6.
2. Resetting
   If the jam is a pick-up delay jam, remove the document from the document tray to reset.
   For other jams, remove the document from the document tray, remove the jam, and the
   open the RDF to reset.

Note:
   As a rule, the first document page is dealt with as being "wrong placement of the docu-
ment" and the second and subsequent document pages are treated as jams.

     CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)

I. Wrong Placement of Document

S1 : Document detection sensor S7 : Pick-up sensor

S3 : Registration sensor S11 : Recirculation sensor
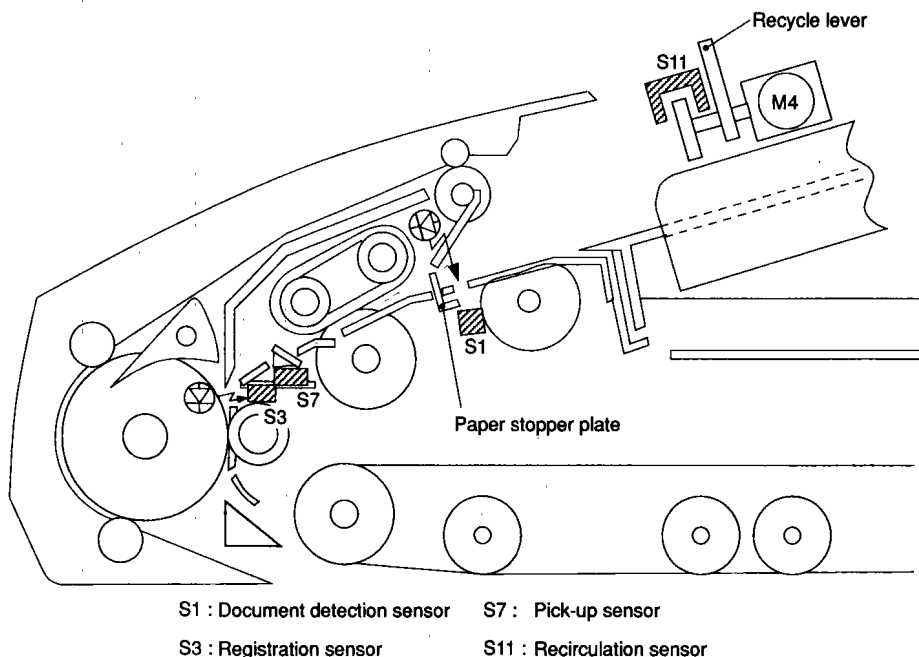
Figure 2-48

Document pages, if not placed correctly, can cause jams or become damaged. To prevent such a problem, the machine is equipped with a mechanism to check if the pages are set correctly. The microprocessor on the RDF controller PCB is programmed in advance, and checks if the document is set correctly based on the presence/absence of paper around the sensor.

When the machine identifies incorrect placement of a document, it communicates the fact to the copier; some copiers allow you to check the code in service mode.

Item	Sensor	Description	RDF	Code
Recirculation bar swings idly	S11	The recirculation bar swings idly without coming into contact with a document immediately after the recirculation motor (M4) has started to rotate.	Stops immediately.	01H
Pick-up fails	S7	S7 does not detect the leading edge of the document 1500 ms after pick-up.	The separation belt, feeding roller, and pick-up roller stop immediately; the RDF stops after copying the preceding document.	03H
Document overrides paper stopper plate	S7	The document is set riding over the paper stopper plate.	Stops immediately.	05H
Number of documents different after removal of jam	S3	The number of copies made is greater than the number of document set on the document tray.	Stops immediately.	11H
Number of documents excessive	S3	The recirculation bar fails to fall below the document tray; as a result, the last document cannot be detected. **Note:** Normally, as may as 50 sheets of A5, STMT, A4, B5, or LTR (or, 25 sheets of A3, B4, or 11 X 17" LGL) may be placed on the document tray.	Stops after counting 100 sheets.	12H
Document forced out	S11	The recirculation bar falls below the document tray while a document is being processed.	Stops immediately.	13H
Document size wrong	S3	The document picked up is not a standard size.	Stops immediately.	14H
Sizes wrong in reduced layout mode*	S3	① The document picked up does not meet the requirements for reduced layout mode. ② The document picked up is of a size different from the first document.	Stops immediately.	15H

* To reset, remove the documents from the document tray, and then open the RDF.

Table 2-7

Note:

Example

Normal

| 10 documents are set on the document tray. | ⟹ | 8th document jams. | ⟹ | 10 documents are set on the document tray as set initially. | ⟹ | After counting the documents, which have been copied already, copying starts with the 8th doceument. |

(7 documents have been copied)

② error   ① error

| 3 documents are set on the document tray. | ⟹ | After counting the document tray. |

10 (documents) − 2 (copied) = 8

| 3rd document jams. | ⟹ | 8 documents are set on the document tray. | ⟹ | After counting the pages, copying starts with the 2nd pages. |

(2 documents copied) 10 (documents) − 2 (copied) = 8

When a jam occurs, the copier remembers how many copies it has made up to that point, and communicates the fact to the RDF. In response, the RDF circulates the document pages that have been processed, and sets the first of those which have not been copied yet. This also means that copies would not be made in the desired number if you removed or added any document pages.

In error ① above, the RDF and the copier will stop operating, noting that the number of document pages is different from before the jam. You need to be careful, however, since they both operate in error ②.

Resetting

When the machine identifies wrong placement of a document, you can reset it by removing all document pages. Some copiers indicate a message to that effect; check the message, and place the document correctly.

If the problem occurs in reduced layout mode, you must open the RDF after removing the document pages.

III. EDITOR

A. Outline

1. Electrical Circuitry

The editor is controlled by the editor controller PCB. The editor controller PCB is a microprocessor and, according to the preprogrammed instructions, it reads points pressed by a cordless pen using a plane-shaped resistor to send signals to the copier as necessary.

2. Communication with the Copier

The editor communicates with the copier in serial. The editor is supplied with power by the RDF, and the editor controller PCB converts 5 VDC to 3.5 VDC.
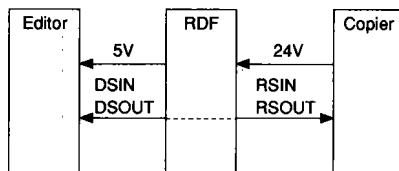
Figure 2-49

3. Inputs to and Outputs from the Editor Controller PCB

Figure 2-50

COPYRIGHT © 1992 CANON INC.   CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)
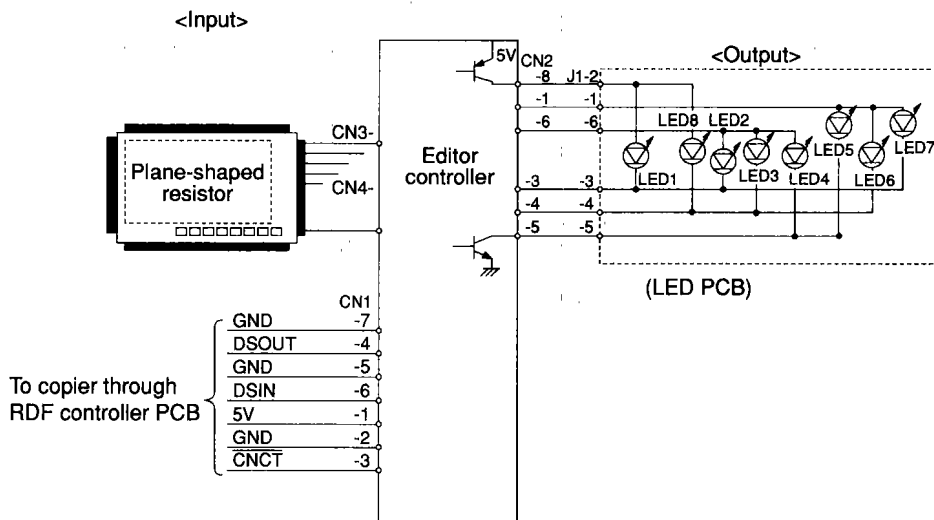
4. Basic Construction of Editor

The editor consists of a tablet and a cordless pen.

Figure 2-51 shows the basic construction of the tablet. As shown in Figure 2-51A, the table consists of several layers, i.e., from above, a protection sheet, X plane-shaped resistor, Y plane-shaped resistor, and fixed plate.

The Y plane-shaped resistor is equipped with bosses called *dot spacers*. These dot spacers are arranged over the Y plane-shaped resistor and serve to prevent contact between the X plane-shaped resistor and the Y plane-shaped resistor when the table is free of pressure.

The editor controller reads points pressed by the cordless pen and the settings as if they are inputs.

Protection sheet

X plane-shaped resistor

Y plane-shaped resistor

Fixed plate

y direction

x direction

Dot spacers

Figure 2-51A

Figure 2-51B

Y plane-shaped resistor

Dot spacer

3mm

3mm
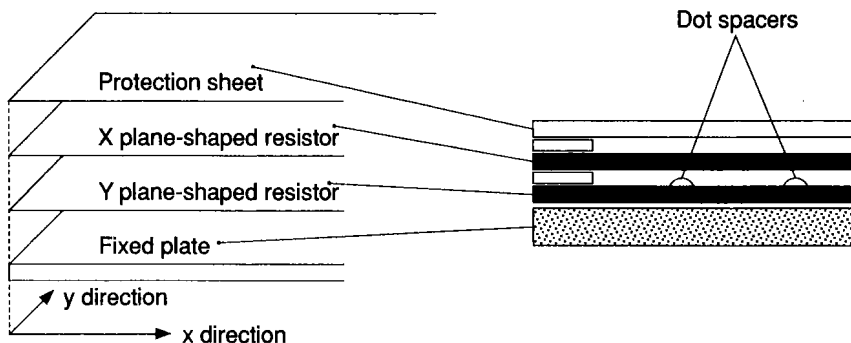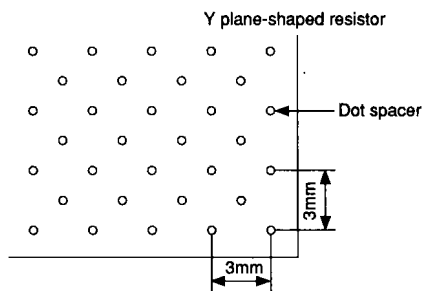
Figure 2-51C

B. Electrical Circuitry

1. Reading Input Operations

The editor identifies presses with the cordless pen as explained below.

Figure 2-52 shows the equalizer circuit of the comparator unit; SW1 is ON, and SW2 through SW4 are OFF.

Inputs of voltage pressure divided at Ra, Rb, Rc, and Rd are sent to the negative side of the comparator; Rc is a contact resistor.

The reference voltage of the comparator, on the other hand, is divided at R1 and R2 and sent to the positive side.

When a point on the tablet receives more than a specific force, the contact resistance (Rc) lowers and, as a result, the voltage sent to the negative side of the comparator increases.

The above causes output Vo of the comparator to change from '1' to '0', enabling the microprocessor to know that the tablet was pressed.

2. Reading X Coordinates

Figure 2-53 shows the equalizer circuit of the tablet unit; SW1 and SW2 are ON, and SW3 and SW4 are OFF.

The switches are shifted as shown in Figure 3-53 to lead the divided voltage to the A/D converter, thereby allowing the microprocessor to read the X coordinates.

Since the input impedance of the A/D converter is appreciably large, effects of Rc (contact resistance) of the X coordinates are absent.

Figure 2-52 Equalizing Circuit Comparator
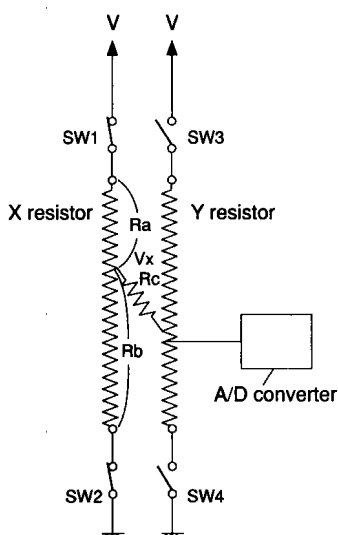
Figure 2-53 Reading X Coordinates

 CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)

3. Reading Y Coordinates

The switches are shifted as shown in Figure 2-54 (SW1 and SW2 are OFF, and SW3 and SW4 are ON) to read the Y coordinates as for X coordinates.
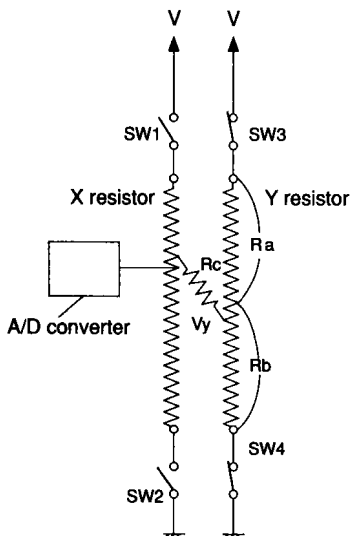
Figure 2-54 Reading Y Coordinates
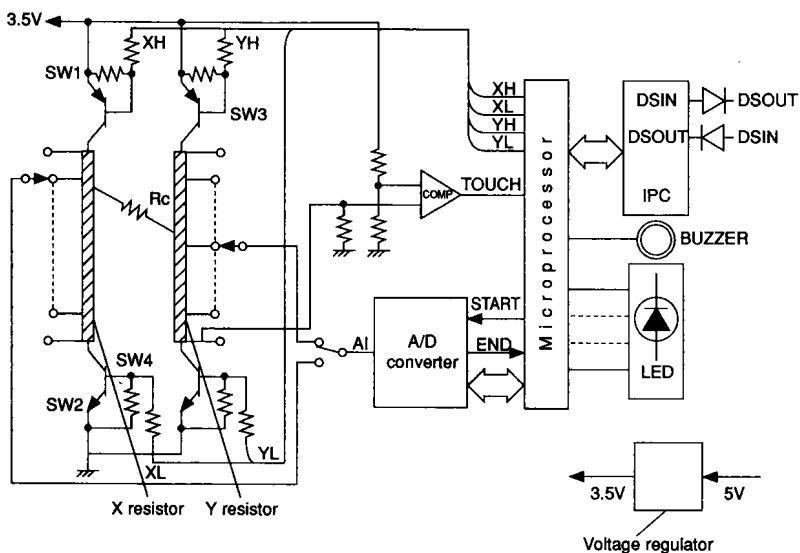
Figure 2-55 Block Diagram Tablet and Editor

I. EXTERNALS

A. External Covers
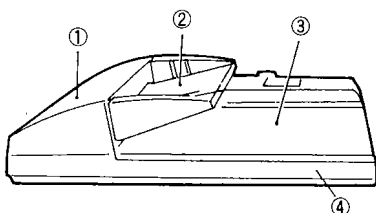
① Top cover ③ Body cover
② Document tray ④ Body front cover

Figure 3-1

Detach the covers as necessary before cleaning, inspecting, or repairing the inside of the machine.

1. Detaching the Body Cover

1) Remove the seven body cover mounting screws ①.
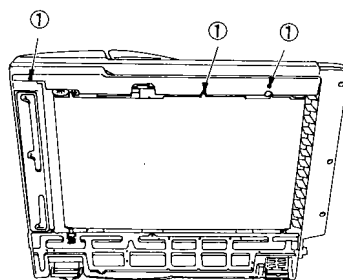
Figure 3-2
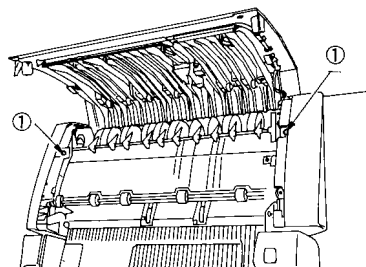
Figure 3-3

Figure 3-4
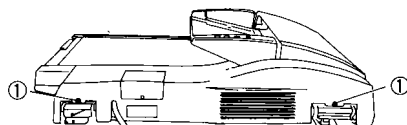
2) Remove the two mounting screws ②, and
   detach the document tray ③.

Note:
The document tray is connected by a
cable. Take care not to damage the cable
when detaching it.
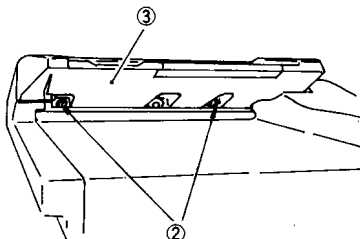
Figure 3-5

3) Detach the body cover and the front
   cover while avoiding the document tray.

2. Detaching the Body Cover
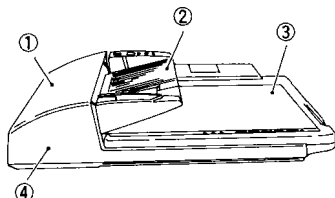
① Top cover   ③ Body cover
② Document tray   ④ Body front cover

Figure 3-6

1) Remove the four mounting screws ①, and detach the body front cover ②.
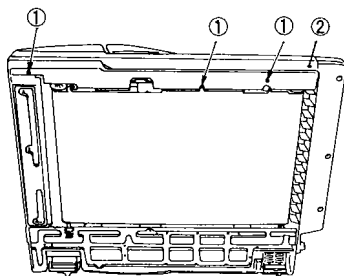
Figure 3-7
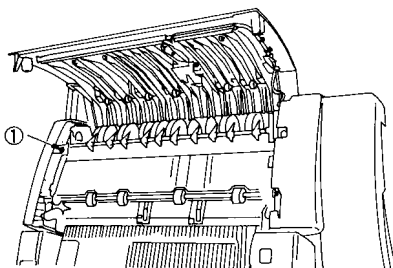
Figure 3-8

2) Remove the two mounting screws ③, and detach the document tray.

Note:
The document tray is connected by a cable. Take care not to damage the cable when detaching it.
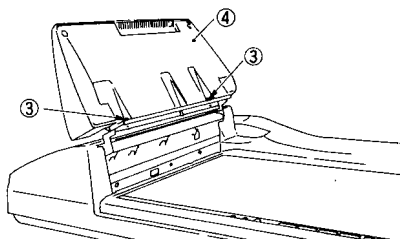
Figure 3-9

3) Detach the RDF controller cover; then, disconnect the connector (CN1; ⑤), and detach the grounding wire ⑥.
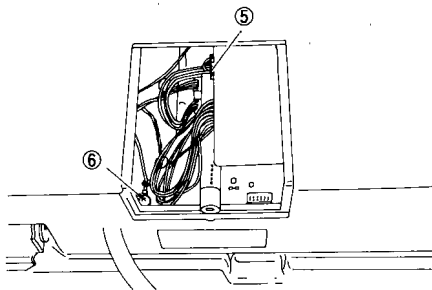
Figure 3-10

4) Remove the three mounting screws ⑦, and detach the body cover ⑧ while avoiding the document tray.
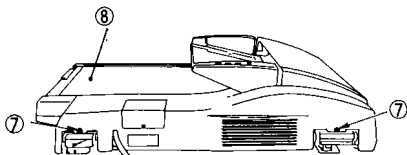
Figure 3-11
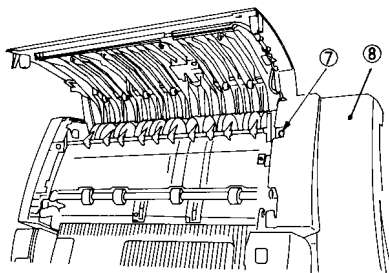
Figure 3-12

B. Switches

The machine's RDF switch (MS1) and upper cover open/closed switch (MS2) are microswitches provided to prevent the machine from operating when its body or upper cover is open.

1. Adjusting the RDF Switch (MS1)

1) Detach the body cover.
2) Open and close the RDF to adjust the holding plate ② so that the RDF switch (MS1; ①) goes ON and OFF when the distance between the copyboard glass and the front end of the RDF is 10 and 100 mm.
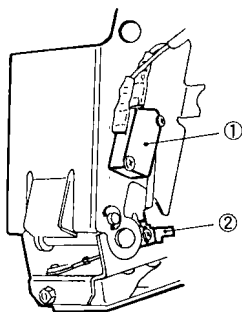
Figure 3-13 Right Hinge Assembly
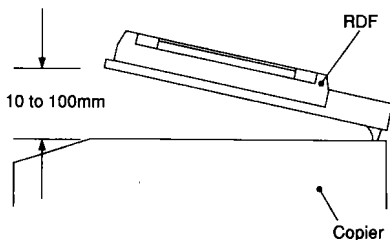
Figure 3-14

2. Upper Cover Switch (MS2)

1) Make sure that both front and rear upper cover switches are ON when the upper cover is closed.

C. Adjusting the Height of the RDF

1) Detach the copier's rear plate. Loosen the lock nut ①, and turn the height adjusting screw ② so that the rear rubber feet (left, right) are 0.2 ±0.1 mm from the horizontal size plate of the copyboard glass.
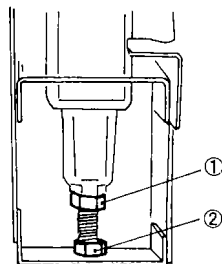
Figure 3-15

2) Make sure that the front rubber feet (left, right) are in contact with the copyboard glass.

II. DRIVE SYSTEM

A. Detaching the Pick-Up Motor Unit

1) Detach the body cover.
2) Remove the clasps, as necessary.
3) Disconnect the connector (J12; ②) from the RDF controller PCB ①.
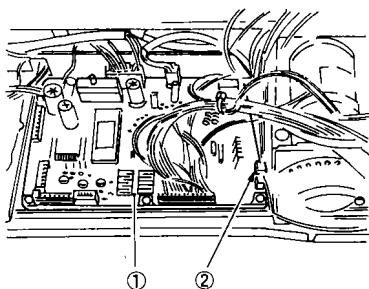
Figure 3-16

4) Remove the screw ③, and detach the cable guide ④.
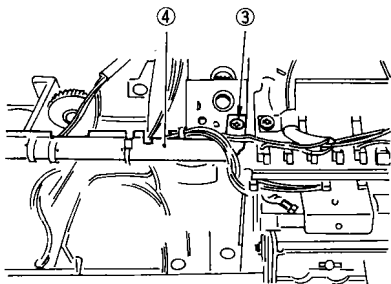
Figure 3-17

5) Disconnect the connector ⑤ from the upper cover sensor (S4).
6) Remove the two mounting screws ⑥, and detach the pick-up motor unit ⑦.
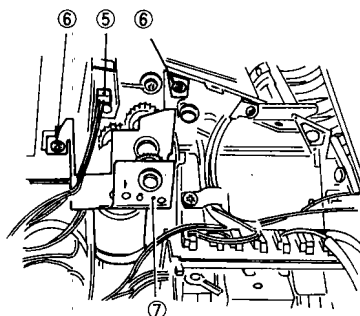
Figure 3-18

B. Detaching the Feeder Motor Unit

1) Detach the pick-up motor unit.
2) Remove the clasps, as necessary.
3) Disconnect the connector (J11; ②) from the RDF controller PCB ①.
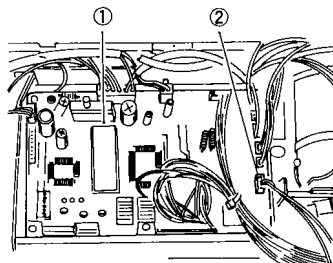
Figure 3-19

4) Disconnect the connector ③ from the feeder motor clock sensor (S9).
5) Mark the position of the feeder motor unit ④ on the RDF.
6) Remove the three screws ⑤.
7) Detach the two drive belts ⑥, and detach the feeder motor unit.
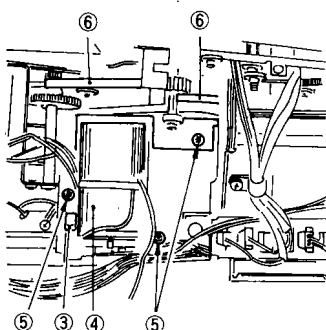
Figure 3-20

Figure 3-22

C. Detaching the Belt Motor Unit

1) Detach the feeder motor unit.
2) Remove the clasps, as necessary.
3) Disconnect the connectors from the RDF controller PCB ①; J6 ②, J7 ③, and J13 ④.
4) Disconnect the connector ⑤ from the belt motor clock sensor (S10).

D. Detaching the Clutch Unit

1) Detach the belt motor unit ①.
2) Detach the drive belt ②.

Figure 3-23

3) Remove the E-ring ③.
4) Slide the bush ④ into the direction of A, and detach the clutch unit ⑤.
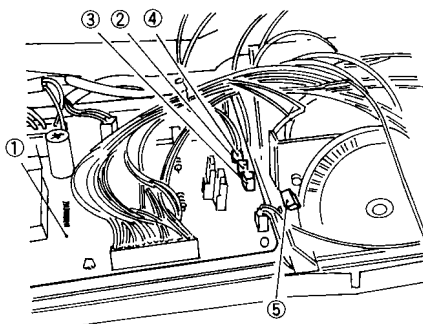
Figure 3-21

5) Mark the position of the belt motor unit ⑥ on the RDF.
6) Remove the three screws ⑦.
7) Detach the drive belt ⑧ on the feeding belt roller side, and detach the belt motor unit ⑥.
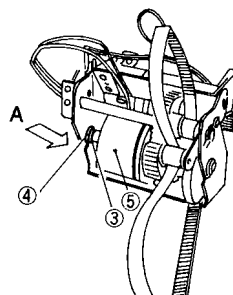
Figure 3-24

III. FEEDER SYSTEM

A. Pick-Up Roller

1) Detach the body cover.
2) Remove the two screws ② that hold the document inlet guide plate ①.
3) Remove the two screws from the document tray mount ③.
4) Detach the document inlet lower guide plate.

Figure 3-26

8) Remove the E-ring ⑨.

Figure 3-25

5) Detach the pick-up motor unit.
6) Detach the pick-up flag ⑤ and the E-ring ⑥ found inside. (Take care not to drop the pin.)
7) Detach the drive gear ⑦, and remove the E-ring ⑧. (Take care not to drop the pin.)
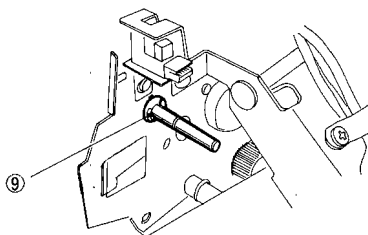
Figure 3-27

9) Remove the E-ring from the front.
10) Detach the feeding roller drive belt ⑪ from the front.

11) Detach the drive gear ⑫. (Take care not to drop the pin.)
12) Detach the pick-up roller while taking care not to damage it.
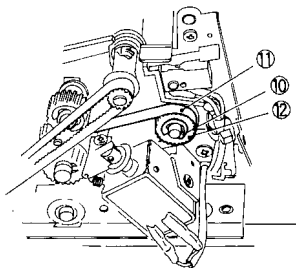
Figure 3-28 (front)

B. Adjusting the Pick-Up Roller Stop Position

The stop position of the pick-up roller varies according to where the flag (light-blocking plate) on the pick-up roller shaft is attached.

You must make the following adjustments if you have detached the flag for replacement of the pick-up roller in the field.

1) Attach the flag so that the pick-up roller and the flag are oriented as shown in Figure 3-29.
   Adjust the flag so that its curved segment faces the same direction as the curved segment of the pick-up roller.
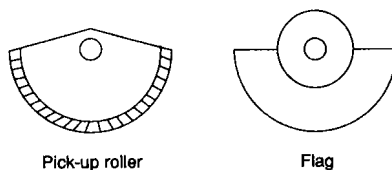
Pick-up roller   Flag

Figure 3-29

2) Make sure that the pick-up roller is positioned as follows at power-on.

Document inlet lower guide plate

Pick-up roller
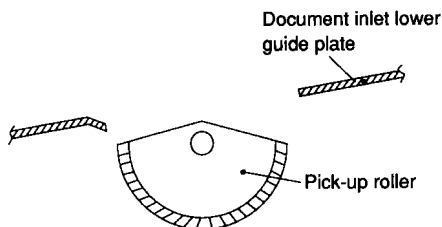
Figure 3-30

C. Separation Belt Unit

1) Detach the body cover.
2) Detach the reversing roller drive belt ①.
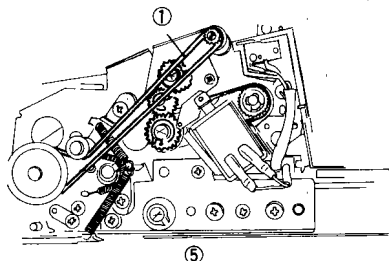
Figure 3-31

3) Remove the two screws ②, and detach the separation belt unit ③ together with the fixing plate ④.
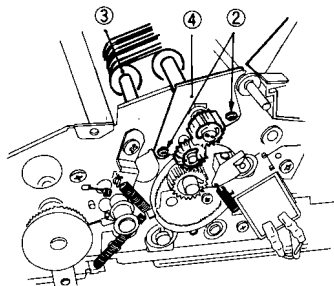
Figure 3-32

D. Feeding Roller

1) Detach the body cover.
2) Remove the four screws ③, and detach the document inlet lower guide plate ① and the document tray mount ②.
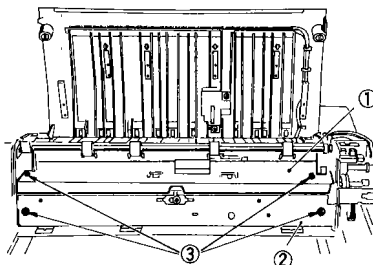
Figure 3-33

3) Detach the separation belt unit.
4) Remove the four screws ⑤ and the cord mount screw ⑥, and detach the left hinge unit ④.

Figure 3-34

     CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG.1992 PRINTED IN JAPAN (IMPRIME AU JAPON)
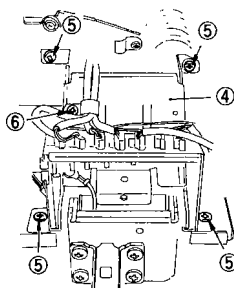
5) Remove the four screws ⑧, and detach the separation guide plate ⑦.
6) Remove the two screws ⑩, and detach the inside guide plate ⑨.

Figure 3-35

8) Remove the E-ring ⑪ from the rear.
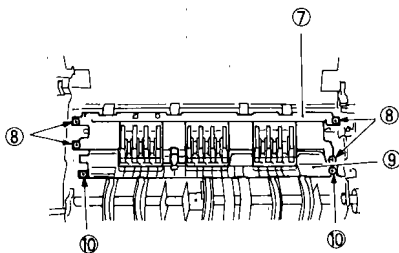
Figure 3-36

9) Remove the grip ring ⑬, and detach the feeder roller drive gear ⑫.
10) Pull out the feeder roller ⑭.
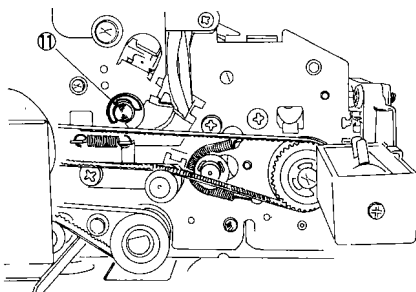
Figure 3-37

E. Delivery Roller

1) Detach the body cover.
2) Detach the delivery roller drive belt ①.
3) Detach the drive gear ②. (Take care not to drop the pin.)
4) Detach the delivery roller bushing ③.
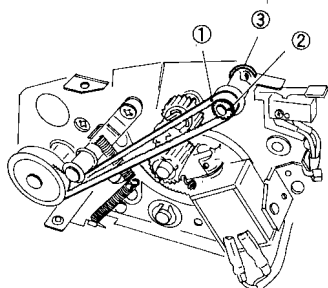
Figure 3-38

5) Remove the E-ring ④ from the rear, and detach the delivery roller ⑤.
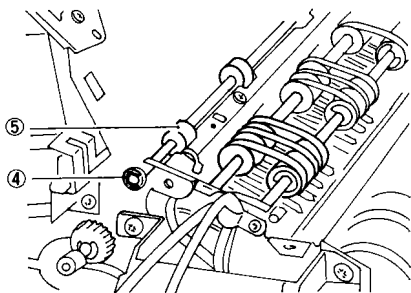
Figure 3-39

F. Registration Roller

1) Detach the body cover.
2) Remove the two screws ② that hold the document inlet lower guide ①.
3) Remove the two screws ④ from the document tray mount ③.
4) Detach the document lower guide, and detach the document tray mount ③.
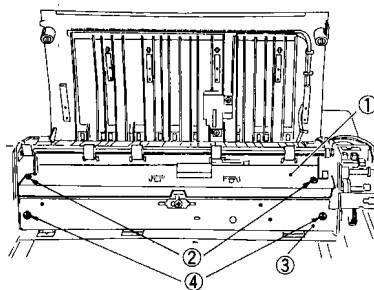
Figure 3-40

5) Detach the pick-up roller. (See *A. Pick-Up Roller.*)
6) Remove the four screws ⑥ and the cord clasp ⑦; then, detach the hinge unit (left; ⑤).
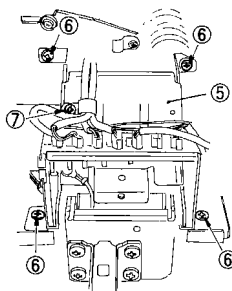
Figure 3-41

7) Remove the E-ring ⑧; then, detach the tension spring ⑨ and the bushing ⑩.
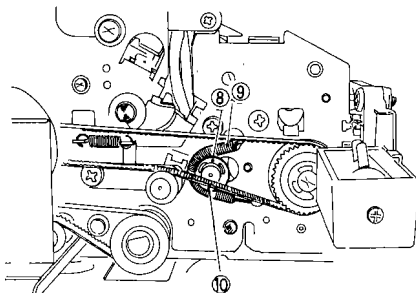
Figure 3-42

8) Detach the tension spring ⑪ ; then, detach the grip ring ⑫ and the registration roller front bushing ⑬ .
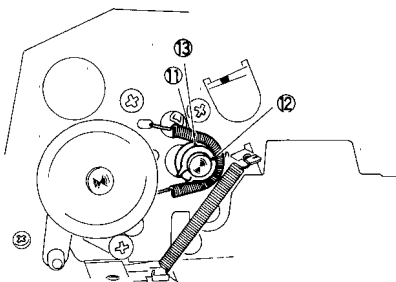
Figure 3-43

9) Remove the four screws ⑮, and detach the separation guide plate ⑭.

10) Remove the two screws ⑰, and detach the inside guide plate ⑯.
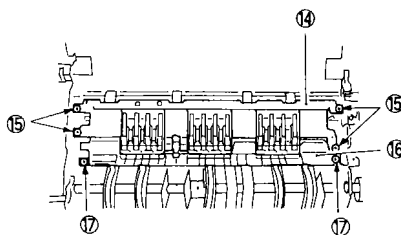
Figure 3-44

11) Detach the registration roller ⑱.
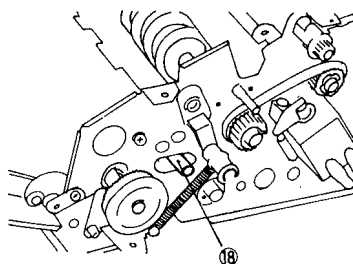
Figure 3-45

G. Reversing Guide

1) Detach the body cover.
2) Unhook the front ① and rear ② of the reversing guide spring.
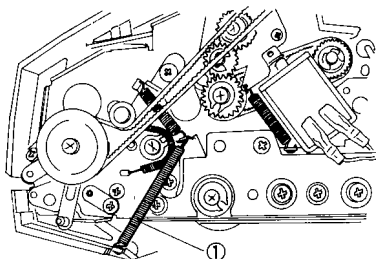
Figure 3-46
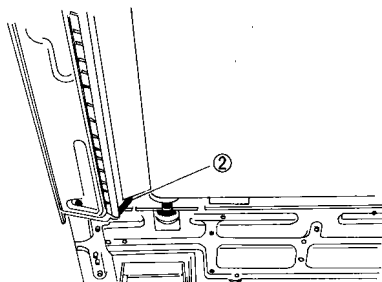
Figure 3-47

3) Disconnect the reversal sensor jack ③, and remove the grounding cord ④.
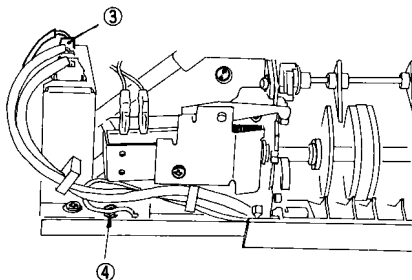
Figure 3-48

4) Remove the mounting screw ⑤, and detach the reversing guide ⑥.

Figure 3-49

  CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG.1992 PRINTED IN JAPAN (IMPRIME AU JAPON)
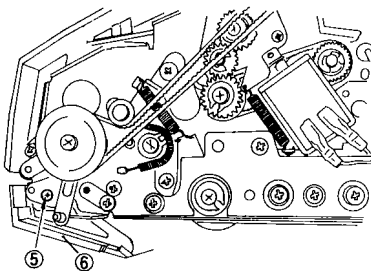
H. Detaching the Stop Plate Solenoid

1) Detach the body cover.
2) Remove the two screws ②, and detach the document tray mount ①.
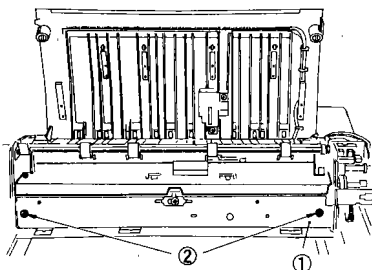
Figure 3-50

3) Detach the stop plate solenoid ③ from the document tray mount ①.
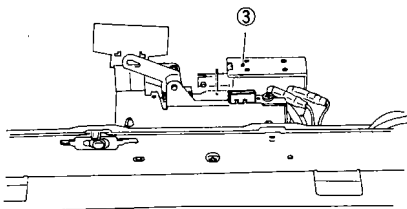
Figure 3-51

I. Adjusting the Position of the Paper Deflecting Plate Solenoid (SL3)

1) Detach the body cover.
2) Loosen the solenoid mounting screw ①, and adjust the position of the paper deflecting plate ③ by moving the solenoid ②.
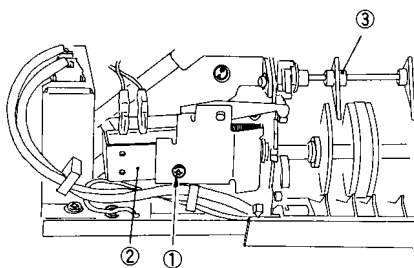
Figure 3-52

J. Feeding Belt

1) Detach the body cover.
2) Remove the spring ① from the front and the spring ② from the rear.
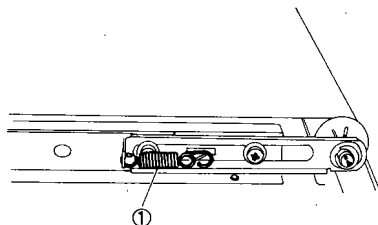
Figure 3-53
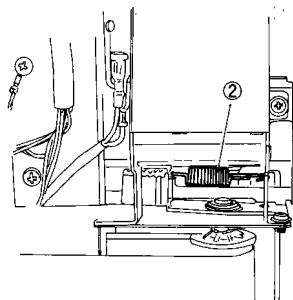
Figure 3-54 (bottom view)

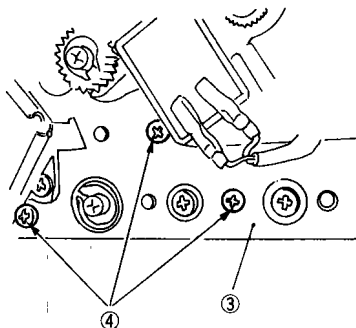3) Remove the three screws ④, and detach the side plate ③.

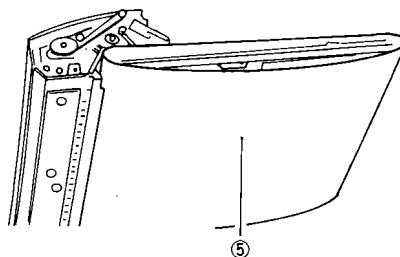**Figure 3-55**

4) Pull out the feeding belt ⑤ to the front.

Figure 3-56

     CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)

IV. CLEANING

A. Belt Assembly

1) Dry wipe the feeding belt while moving it in the direction of the arrow.
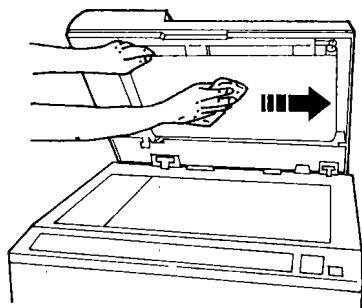

Figure 3-57

2) Place a sheet of copy paper with its center moistened with alcohol on the document tray, and push the DIP switch (SW6) on the RDF controller PCB.
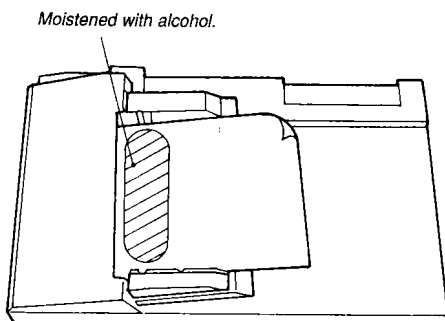
Moistened with alcohol.

Figure 3-58

3) After cleaning, shift all bits of the DIP switch to OFF.
4) Attach the RDF controller cover.

B. Sensors

The machine is equipped with sensors along its document path: two transmission type sensors, i.e., document sensor (S1) and registration sensor (S3); and three photointerrupters, i.e., pick-up sensor (S7), delivery sensor (S6), and reversal sensor (S8).

The light-receiving face of transmission type sensors tend to become soiled compared to photointerrupters, and accumulation of dust particles can lead to malfunctions. Clean them as follows:

1. Cleaning the Document Sensor (S1)

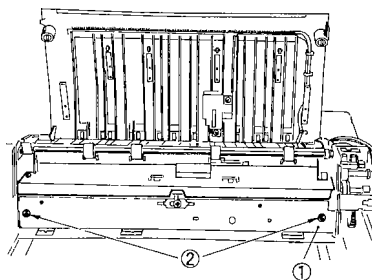1) Remove the two screws ②, and detach the document tray mount ①.

Figure 3-59
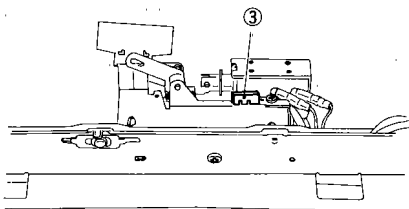
2) Clean the sensor (S1; ③); see Figure 3-60.

Figure 3-60

2. Document Sensor (LED 1)

1) Remove the screw ② from the separation guide plate ①, and detach the document sensor (LED1; ④) while pressing down on the paper holding plate ③.
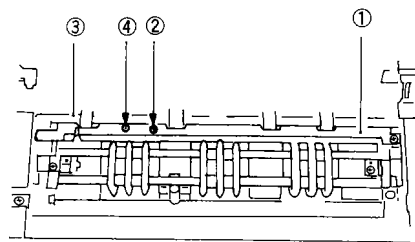

Figure 3-61

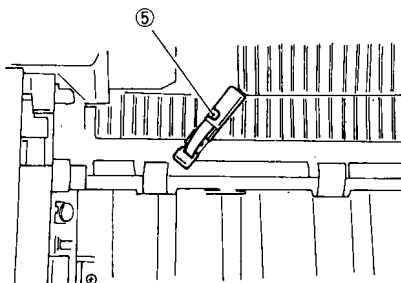2) Clean the light-emitting face ⑤ of the document sensor LED1.

Figure 3-62

3. Registration Sensor (S3)

1) Detach the separation belt unit.

2) Remove the four screws ②, and detach the separation guide plate ①.

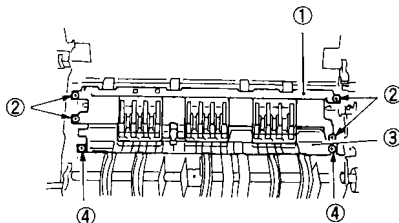3) Remove the two screws ④, and detach the inside guide plate ③.

Figure 3-63

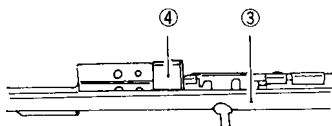4) Clean the registration sensor (S3; ④) from the inside guide plate ③.

Figure 3-64

4. Registration Sensor LED 3

1) Remove the screw ③, and detach the registration sensor LED3 cover ② from the reversing roller unit ①.
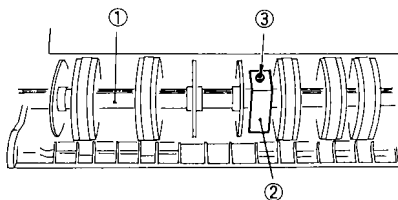

Figure 3-65

2) Detach the reversing guide.
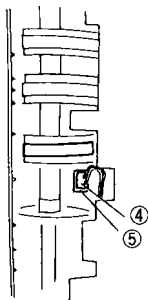3) Disconnect the connector ④ of the registration sensor LED3, and detach the registration sensor LED3 ⑤ from above.

Figure 3-66

I. PARTS TO BE REPLACED PERIODICALLY

The RDF does not have parts that need to be replaced periodically.

II. DURABLES

Some parts may need to be replaced during the period of warranty of the machine because of wear or damage. Consult the table below for a guide.

as of March 1992

No.	Parts name	Parts No.	Q'ty	Expected life	Remarks
1	Feeding belt	FC1-1339-000	1	100,000	Replace the part if dirt cannot be removed.

Note:
The values are estimates only and are subject to change based on field data.

Table 4-1

III. ITEMS TO BE MAINTAINED PERIODICALLY

Note:
Do not use solvents or oils not specified.

Δ:clean ●:replace X:lubricate □:adjust ◎:inspect

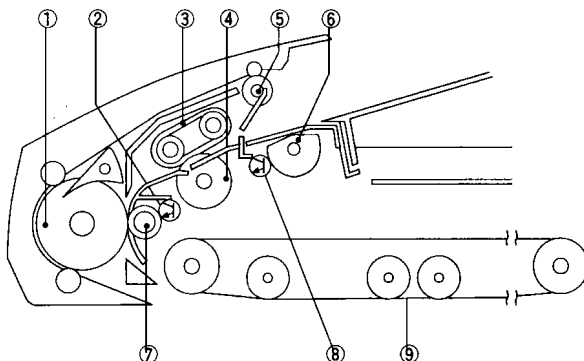| Ref.	Parts name	Periodical maintenance		Remarks
		every 100,000	every 200,000	
1	Delivery/Reversing roller	Δ		
2	Registration sensor (S3)		Δ	
3	Separation belt (pick-up assembly)	Δ		
4	Feeding roller (pick-up assembly)	Δ		
5	Delivery roller		Δ	
6	Pick-up roller (pick-up assembly)		Δ	
7	Registration roller	Δ		
8	Document sensor (S1)		Δ	
9	Feeding belt	Δ		

Table 4-2

Figure 4-1

I. STANDARDS AND ADJUSTMENTS

A. Mechanical

1. Adjusting the Height of the RDF

1) Detach the copier's rear cover. With the RDF-C1 closed, i.e., its rubber feet at the front are in contact with the copyboard glass, turn the bolts on both left and right supports until the distance between the two rubber feet at the rear and the horizontal size plate at the rear is 0.2 ±0.1 mm, i.e., a gap enough to accommodate two sheets of copy paper (64 g/m²).
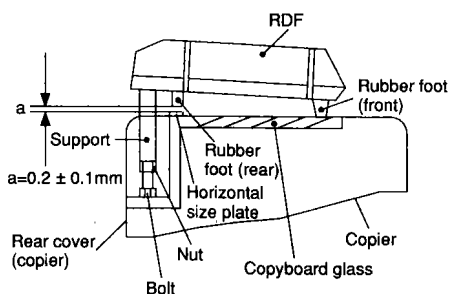
Figure 5-1

2) After adjustment, make sure that both left and right rubber feet at the front are in contact with the copyboard glass; otherwise, adjust both left and right supports once again.

2. Adjusting the Document Stop Position

Adjust the document stop position after adjusting the height of the RDF; start with document skew, then distance from the horizontal size plate, and then document leading edge stop position.

① Correcting the Document Skew
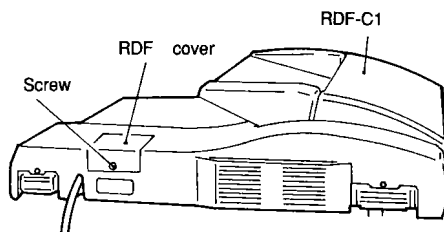
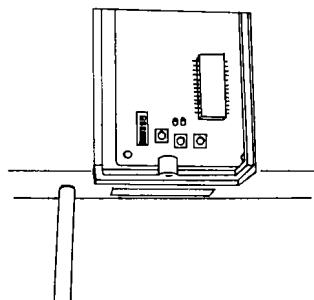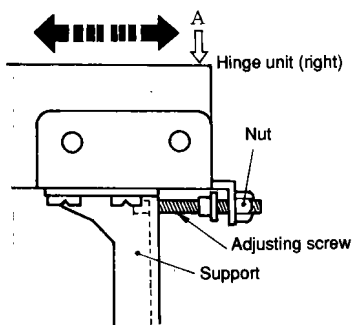1) Remove the screw, and detach the RDF-C1's cover.

Figure 5-2

Figure 5-3 (top view)

2) Switch the copier OFF, and shift bit 1 of the DIP switch (DIPSW1) on the RDF controller PCB to ON.

Figure 5-4

3) Switch the copier ON, and place A3 or LGL copy paper (64 g/m²) on the document tray.

4) Press the push switch (SW3) on the RDF controller PCB once. The copy paper will be picked up and stopped on the copyboard glass.

Figure 5-5

5) Open the RDF-C1, and check that the difference between L1 and L2 in Figure 5-6 is 1 mm or less.

Standard
L₁ - L₂ = 0 ± 1 mm

* L₁ may be anywhere on the copy paper.

Figure 5-6

6) If the difference is not within specification, loosen the nut found at the rear of the right hinge unit and make adjustments using the adjusting screw.

Figure 5-7

Push the hinge unit into the direction of arrow A before turning the adjusting screw.

Figure 5-8

Relationship between Screw Rotation and L1 and L2

Rotation	L1 and L2
Clockwise	L1 < L2
Counterclockwise	L1 > L2

Table 5-1

7) Tighten the nut, and fix the adjusting screw in place.

② **Adjusting the Distance from the Horizontal Size Plate**
Adjust the distance from the horizontal size plate only after correcting the document skew.

1) Switch the copier OFF, and shift bit 1 of the DIP switch (DIPSW1) on the RDF controller PCB to ON.
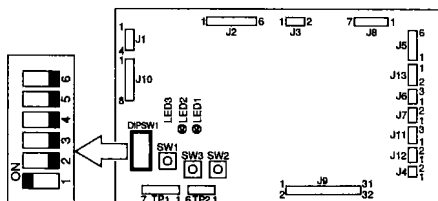
Figure 5-9

2) Switch the copier ON, and place A4 or LTR copy paper (64 g/m²) on the document tray.

3) Press the push switch (SW3) on the RDF controller PCB once. The copy paper will be picked up and stopped on the copyboard glass.
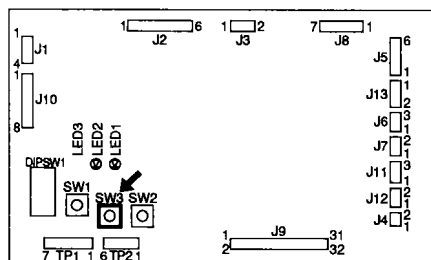
Figure 5-10

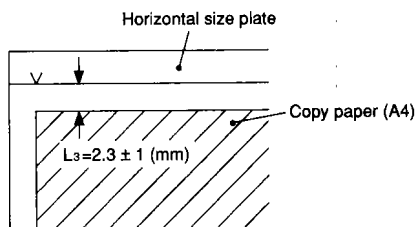4) Open the RDF-C1, and check that the distance (L3) shown in Figure 5-11 or -12 is within specification.

Horizontal size plate

Copy paper (A4)

L3=2.3 ± 1 (mm)

Figure 5-11

Horizontal size plate
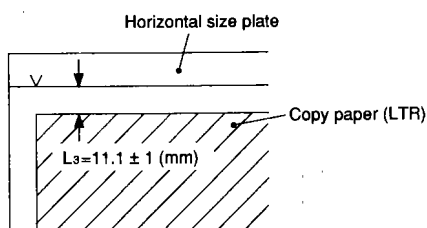

Copy paper (LTR)

L3=11.1 ± 1 (mm)

Figure 5-12

5) If the distance is not within specification, loosen the fixing screw (Figure 5-13) found at the bottom of the RDF tray unit and make adjustments by sliding the tray unit back and forth.
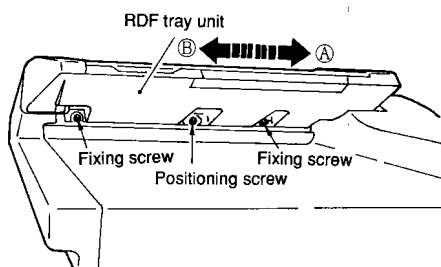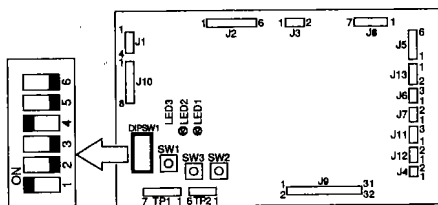
RDF tray unit

Ⓑ ◄━━━━━► Ⓐ

Fixing screw   Fixing screw
Positioning screw

Figure 5-13

Relationship between RDF Document Tray (direction) and L3

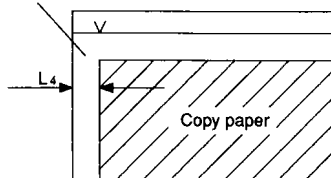| Direction	L3
A	decreases
B	increases

Table 5-2

6) After adjustment, tighten the positioning screw and fixing screw to fix the RDF document tray in place.

③ Adjusting the Document Leading Edge Stop Position
Adjust the document leading edge stop position only after adjusting document skew and distance from the horizontal size plate.

1) Switch the copier OFF, and shift bits 1 and 4 of the DIP switch (DIPSW1) on the RDF controller PCB ON.

Figure 5-14

2) Switch the copier ON, and place A4 or LTR paper (64 g/cm²) on the document tray.
3) Press the push switch (SW3) on the RDF controller PCB once. The copy paper will be picked up and stopped on the copyboard glass.
4) Open the RDF-C1, and measure the stop position of the copy paper (L4); then, close the RDF.

Copyboard glass

Standard
stop position $L_4 = 8 \pm 1$ mm

Figure 5-15

5) Use the push switches (SW1, SW2) on the RDF controller PCB to adjust the document leading edge stop position. A press on each push switch moves the stop position in increments of 0.33 mm. When the position is decided on, press the push switch (SW3) once; the copy paper will be delivered and the setting will be stored.
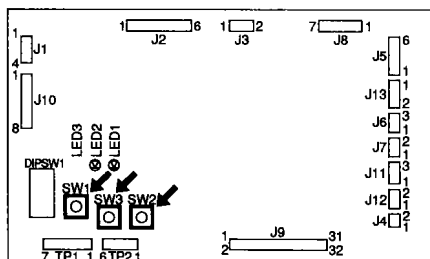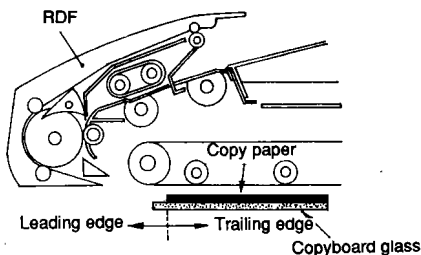
Figure 5-16

Relationship between Push Switches and Copy Paper Shift

Push switch	Document shift direction
SW1	trailing edge
SW2	leading edge

Table 5-3

RDF

Copy paper

Leading edge ◄───┬───► Trailing edge
Copyboard glass

Figure 5-17

Example

Using Push Switch (SW3) on the RDF Controller PCB

Suppose that the copy paper stop position (L4) is 10 mm from the leading edge of the copyboard glass after the push switch (SW3) on the RDF controller PCB has been pressed to stop the paper on the copyboard glass and the RDF has been opened.

To move the stop position 2 mm toward the leading edge, close the RDF without removing the copy paper, and press the push switch (SW2) six times*. A press on the push switch (SW3) on the RDF controller PCB thereafter will cause the copy paper to be delivered and the new setting stored.

*2 mm ÷ 0.33 (adjustment) = 6.06

3. Adjusting the Image Combination Mode Paper Interval

Adjust the image combination mode paper interval after adjusting the height of the RDF and document stop position.

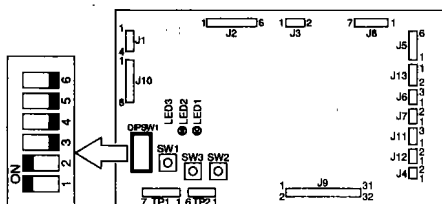1) Switch the copier OFF, and shift bits 1 and 2 of the DIP switch (DIPSW1) on the RDF controller PCB to ON.

Figure 5-18

2) Switch the copier ON, and place two sheets of A4 or LTR paper (64 g/m²) on the RDF's document tray.

Make sure that the setting is based on the RDF's setting: if the RDF is of a metric configuration, A4 paper; if the RDF is of an inch configuration, LTR paper.

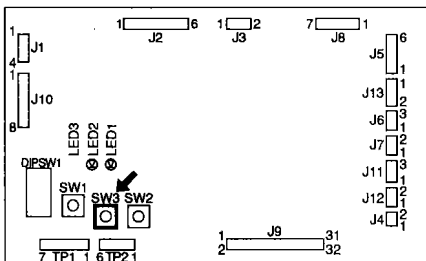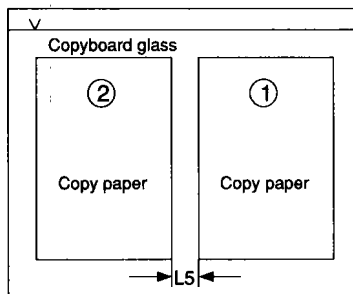3) Press the push switch (SW3) on the RDF controller once to stop the document on the copyboard glass.

Figure 5-19

4) Open the RDF-C1, measure the distance between the two sheets of copy paper (L5), and close the RDF.

Standard
paper interval: L5 = 0 ± 3 mm

Figure 5-20

5) Use the push switches (SW1, SW2) on the RDF controller PCB to adjust the paper interval. A press on each push switch moves the copy paper ① of Figure 5-20 in increments of 0.33 mm. When the position is decided on, press the push switch (SW3) once; the copy paper will be delivered and the setting will be stored.

Relationship between Push Switches and Paper Interval

Push switch	Paper interval (L5)
SW1	Increases
SW2	Decreases

Table 5-4

Example

Suppose that the paper interval (L5) is 4 mm after the push switch (SW3) on the RDF controller PCB has been pressed to stop the two sheets of copy paper on the copyboard glass and the RDF has been opened.

To close up the interval by 4 mm, close the RDF without removing the copy paper, and press the push switch (SW2) twelve times*. A press on the push switch (SW3) on the RDF controller PCB thereafter will cause the copy paper to be delivered and the new setting stored.

*4 mm ÷ 0.33 (adjustment) = 12.12

6) When you have corrected document skew and adjusted the distance from the horizontal size plate, document stop position, and image combination mode paper interval, switch the copier OFF and shift all bits of the DIP switch (DIPSW1) to OFF.*

Thereafter, switch the copier ON, and check that the RDF-C1 operates correctly.

*Keep bit 5 of the DIP switch (DIPSW1) ON if the document size (feeding direction) is one of the following:

RDF-C1 configuration	Document size (feed direction)
Metric	220 to 250 mm
Inch	220 to 260 mm

Table 5-5

4. Adjusting the RDF Switch (MS1)

1) Detach the body cover.
2) Open and close the RDF, and adjust the retaining plate ② so that the RDF switch (MS1; ①) goes ON and OFF when the distance between the copyboard glass and the front end of the RDF is 10 to 100mm.
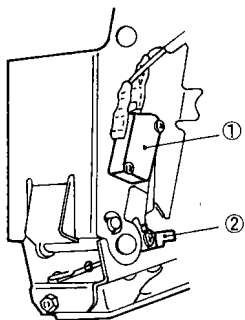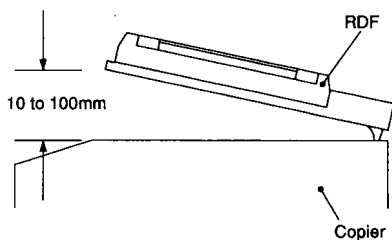
Figure 5-21

Figure 5-22

5. Adjusting the Pick-up Roller Stop Position.

1) Attach the flag so that the pick-up roller and the flag are oriented as shown in Figure 5-23; i.e., adjust the flag so that the sides with a curvature face the same direction.
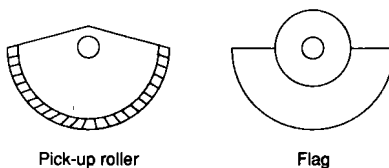
Pick-up roller   Flag

Figure 5-23

2) After adjusting the flag, make sure that the pick-up roller is positioned as shown in Figure 5-24 at power-on.

Document inlet lower guide plate

Pick-up roller

Figure 5-24

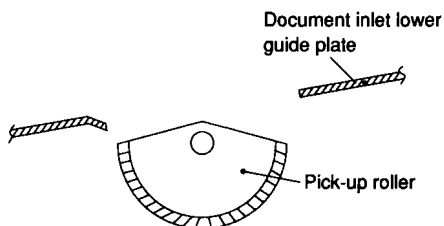   CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG.1992 PRINTED IN JAPAN (IMPRIME AU JAPON)

6. Adjusting the Separation Belt Tension

If you notice wear on the separation belt or the feeding roller in the field, or if paper tends to move askew, you must adjust the tension of the separation belt.

Be sure to make the following adjustments whenever you have replaced the separation belt or the feeding roller.

Outline

The tension of the separation belt is measured in relation to how well it can move paper, which varies according to the turns made on the adjusting screw.

You will adjust the front and rear of the three sets of separation belts.
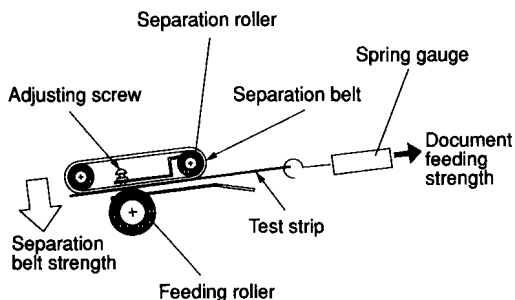
70 mm (approx.)

Length

Copy paper (A4)

10 mm (approx.)
Attach tape on both sides.
35mm
Make a hole.
70 mm (approx.)
20 mm (approx.)
300 mm (approx.)

Figure 5-26

Separation roller

Spring gauge

Adjusting screw   Separation belt

Document feeding strength

Separation belt strength   Test strip

Feeding roller

Figure 5-25

1) Prepare a test strip for measuring the feeding strength.
   Cut an A4 or LTR sheet (64 or 80 g/m²) lengthwise in strips of about 70 mm wide. Attach lengths of tape to both sides of a strip, and make a hole.
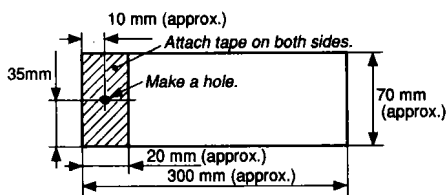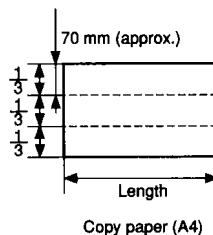
2) Switch the copier OFF; remove the screw, and detach the RDF controller cover.
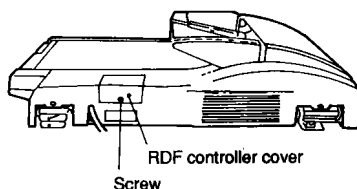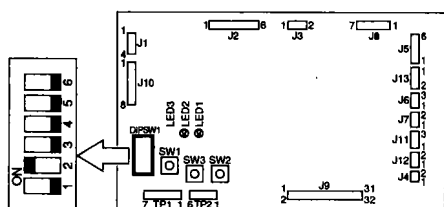
RDF controller cover
Screw

Figure 5-27

3) Shift bit 2 of the DIP switch (DIPSW1) on the RDF controller PCB to ON to select continous pick-up/delivery mode; then, switch the copier ON.
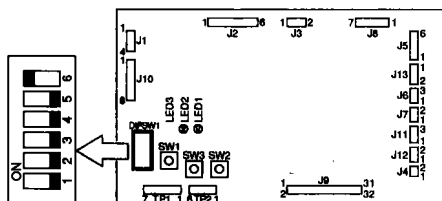
Figure 5-28

4) Set five to ten sheets of copy paper (A4 or LTR) on the document tray, and press the push switch (SW3) on the RDF controller PCB to start continous pick-up/delivery.

5) After about two minutes of continous pick-up/delivery operation, press the push switch (SW3) to stop the operation.

6) Switch the copier OFF, and shift bit 2 on the DIP switch (DIPSW1) on the RDF controller PCB back to OFF; then, shift bit 6 to ON to select separation belt/feeding roller cleaning mode (service mode). Remove the copies from the document tray.
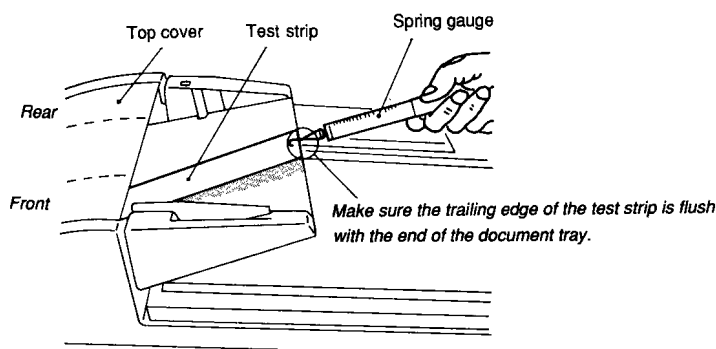

Figure 5-29

7) Switch the copier ON. Push the test strip until it is pulled into the separation assembly in the front to measure the feeding strength; see Figure. 5-30.

Points to Note:

① Make sure that the three separation belts are in contact with the test strip.

② Be sure to pull the test strip straight along the separation belt; see Figure 5-25.

③ Take measurements where the trailing edge of the test strip is flush with the end of the document tray; see Figure 5-30.

Make sure the trailing edge of the test strip is flush
with the end of the document tray.

Use a spring gauge that can measure up to about 500 g
(tool No. CK-0058).

Figure 5-30

8) Open the RDF's top cover, and end the measurement.
9) Loosen the lock nut ①. Turn the adjusting screw ② so that the feeding strength is as specified. Tighten the lock nut ①.

Figure 5-31

Test strip	Feeding strength (g)
64 g/m² paper	190 ± 20
80 g/m² paper	200 ± 20

Note:
Difference in feeding force between the front and the rear sides must be as small as possible.

Table 5-6

Direction of turn	Feeding strength
Clockwise	Decreases
Counterclockwise	Increases

Table 5-7

10) Adjust the feeding strength of the rear as you did of the front.
11) Measure the feeding strength of the front and the rear. If both are within specification, tighten the lock nut, and lock it using lock paint. Otherwise, adjust the strength.
12) Switch the copier OFF. Shift bit 6 of the DIP switch (DIPSW1) on the RDF controller PCB to OFF to leave the service mode.
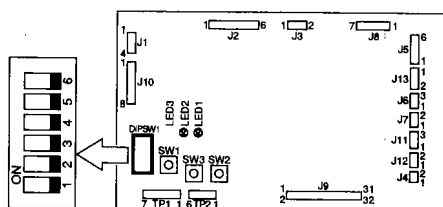
Figure 5-32

13) Attach the RDF controller cover.

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B. Electrical

1. Adjusting the Sensor Level

You must adjust the sensor level if you have replaced the RDF controller PCB, document sensor (S1), or registration sensor (S3) in the field.
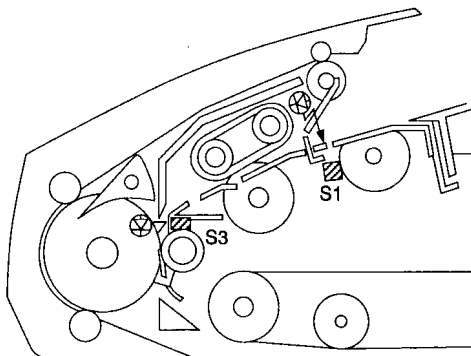

Figure 5-33

1. Adjustment
1) Switch the copier OFF.
2) Detach the RDF controller cover, and shift bit 4 of the DIP switch (DIPSW1) on the RDF controller PCB to ON.

Figure 5-34

3) Switch the copier ON, and press the push switch (SW3) on the RDF controller PCB without a document on the document tray.
4) Check that LED1 and LED2 on the RDF controller PCB go ON.
5) Press the push switch (SW3) on the RDF controller PCB once again.
   Both LEDs go OFF, and the adjustment ends.
6) If either LED1 or LED2 fails to go ON, check the optical axis for discrepancy and the sensor for dirt. Make adjustment as necessary.

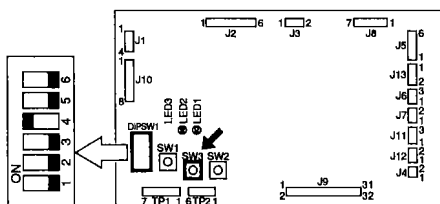| LED	Sensor
LED 1	Document sensor (S1)
LED 2	Registration sensor (S3)

Table 5-8

     CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)

II. MALFUNCTION

A. Troubleshooting Procedure

1. E400

Cause	Step	Checks	YES/NO	Remedy
	1	Switch the machine OFF and ON. Is the problem corrected?	YES	End. (Check the wiring between the copier's DC controller PCB and the RDF controller PCB.)
Wiring	2	Set the tester to the 200VDC range, and connect the + probe to J2-6 and the - probe to J2-5 on the RDF controller PCB. Is the voltage about 24 V?	NO	Check the wiring for the power supplied from the copier.
RDF controller PCB	3	Replace the RDF controller PCB. Is the problem corrected?	YES	End.
			NO	Replace the copier's DC controller PCB.

Table 5-9

2. E401

Cause	Step	Checks	YES/NO	Remedy
Pick-up roller sensor (S5)	1	Set the tester to the 20VDC range, and connect the + probe to J9-8 and the - probe to J9-9 on the RDF controller PCB. Turn the flag (light-blocking plate) on the pick-up roller shaft by hand. Is the voltage about 5 V when the flag is at the sensor and about 0.15 V otherwise?	NO	Check the wiring from the pick-up roller sensor (S5) and the RDF controller PCB; if normal, replace the pick-up roller sensor (S5).
Pick-up motor (M1)	2	Set the tester to the 200VDC range, and connect the + probe to J12-1 and the - probe to J12-2 on the RDF controller PCB. Is the reading about 22 V when you press the COPY START key?	YES	Check the wiring from the pick-up motor (M1) to the RDF controller PCB; if normal, replace the pick-up motor (M1).
			NO	Replace the RDF controller PCB.

Table 5-10

CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)

3. E402

Cause	Step	Checks	YES/NO	Remedy
Belt motor clock sensor (S10)	1	Set the tester to the 20VDC range, and connect the + probe to J9-23 and the - probe to 9-24 on the RDF controller PCB; does the reading alternate between 5 V and 0 V when you turn the clock disk slowly by hand?	NO	Check the wiring from the belt motor clock sensor (S10) and the RDF controller PCB; if normal, replace the belt motor clock sensor (S10).
Belt motor (M3)	2	Set the tester to the 200 VDC range, and connect the + probe to J7-1 and the - probe to J7-2 on the RDF controller PCB. Is the reading 23 V when you press the COPY START key?	YES	Check the wiring from the belt motor (M3) to the RDF controller PCB; if normal, replace the belt motor (M3).
			NO	Replace the RDF controller PCB.

Table 5-11

4. E403

Cause	Step	Checks	YES/NO	Remedy
Feeder motor clock sensor (S9)	1	Set the tester to the 20VDC range, and connect the + probe to J9-20 and the - probe to J9-21 on the RDF controller PCB. Does the reading alternate between 5 V and 0 V when you turn the clock disk slowly by hand?	NO	Check the wiring from the feeder motor clock sensor (S9) to the RDF controller PCB; if normal, replace the feeder motor clock sensor (S9).
Feeder motor (M2)	2	Set the tester to the 200VDC range, and connect the + probe to J11-1 and the - probe to 11-2 on the RDF controller PCB. Is the reading 23 V when you press the COPY START key?	YES	Check the wiring from the feeder motor (M2) to the RDF controller PCB; if normal, replace the feeder motor (M2).
			NO	Replace the RDF controller PCB.

Table 5-12

5. E411

Cause	Step	Checks	YES/NO	Remedy
Document sensor (S1), Registration sensor (S3)	1	Connect the probe to the following connectors on the RDF controller PCB. Is the reading 2.3 V without anything blocking the sensor?	YES	Go to step 2.
			NO	Replace the RDF controller.
		<table><tr><td></td><td>(+)</td><td>(-)</td></tr><tr><td>Document sensor (S1)</td><td>J5-5</td><td>J5-6</td></tr><tr><td>Registration sensor (S3)</td><td>J9-25</td><td>J9-26</td></tr></table>		
Document sensor, Registration sensor (S3)	2	Is the light-receiving unit of any sensor soiled with dust particles or the like?	YES	Clean the light-receiving unit using a cotton swab, and go to step 3.
		<table><tr><td></td><td>(+)</td><td>(-)</td></tr><tr><td>LED1</td><td>J9-1</td><td>J9-2</td></tr><tr><td>LED2</td><td>J9-5</td><td>J9-6</td></tr></table>		
LED1, LED3 (for sensors)	3	Connect the probes to the following connectors on the RDF controller PCB. Is the reading between about 0.6 and 1.1 V?	NO	Check the wiring from the LED to the RDF controller PCB; if normal, replace the LED.
Sensors (output level)	4	After steps 2 and 3, check the output as shown in step 1 once again. Is the reading 1.2 V or less?	NO	Adjust the sensor position.
Sensor	5	Is the problem corrected after step 4?	YES	End.
			NO	Replace the sensor.

Table 5-13

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III. ARRANGEMENT OF ELECTRICAL PARTS

A. Motor, Solenoids, and Sensors

Figure 5-35

CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG.1992 PRINTED IN JAPAN (IMPRIME AU JAPON)
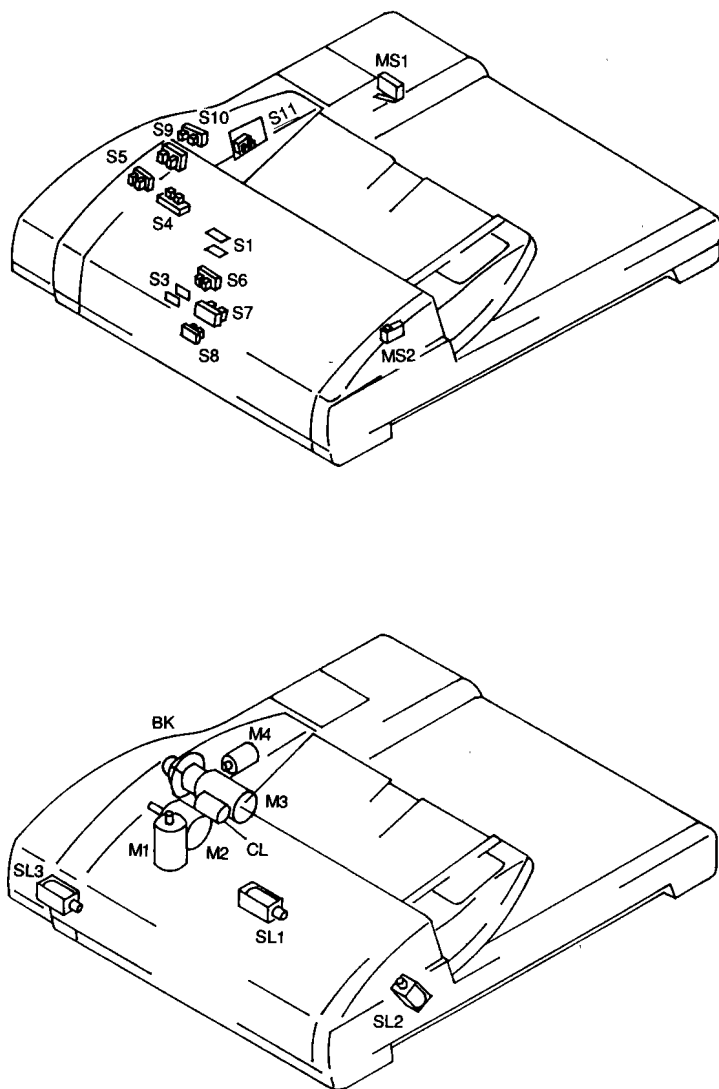
Symbol	Name	Notation	Description
M (Motor symbol)	Motor	M1 M2 M3 M4	Pick-up motor Feeder motor Belt motor Recirculation motor
CL	Clutch	CL	Clutch
BK	Brake	BK	Belt motor brake
SL	Solenoid	SL1 SL2 SL3	Stopper plate solenoid Paper holding plate solenoid Paper deflecting plate solenoid
(Microswitch symbol)	Microswitch	MS1 MS2	RDF open/closed switch Top cover switch
(Phototransistor symbol)	Phototransistor	S1 S3	Document sensor Registration sensor
(Photointerrupter symbol)	Photointerrupter	S4 S5 S6 S7 S8 S9 S10 S11	Top cover sensor Pick-up roller sensor Delivery sensor Pick-up sensor Reversal sensor Feeder motor clock sensor Belt motor clock sensor Recirculation sensor
(LED symbol)	LED	LED 101 LED 102	} DOCUMENT SET indicator

Table 5-14

B. Printed Circuit Boards (PCB)
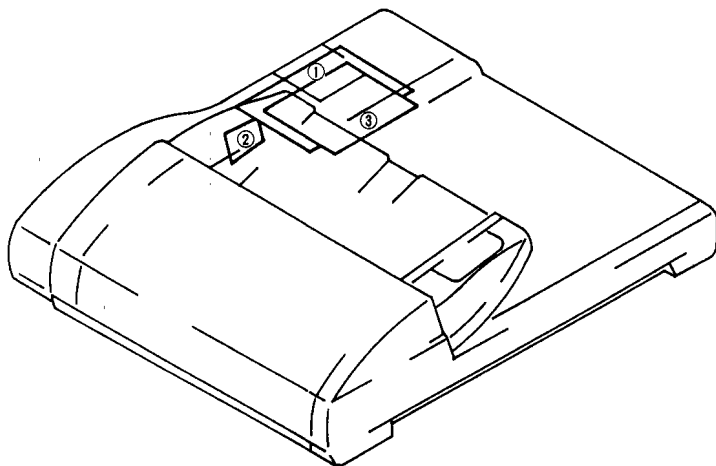
Figure 5-36

Ref.	Name	Description
①	RDF controller PCB	Controls the RDF.
②	Indicator PCB	Indicates placement of a document.
③	Editor controller PCB	Controls the Editor.

Table 5-15

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IV.VARIABLE RESIS-TORS, LIGHT-EMIT-TING DIODES, AND CHECK PINS BY PCB

Of the VRs, LEDs, and check pins used in the machine, those you need in the field are discussed.

Note:
Do not touch the VRs or check pins not discussed herein; they are for factory use only and adjusted with high precision, requiring special tools and instrument.

A. RDF Controller PCB

Note:
i. Some LEDs have leakage current and emit light even when they are OFF. This is a normal condition and must be kept in mind.
ii. VRs that may be used in the filed
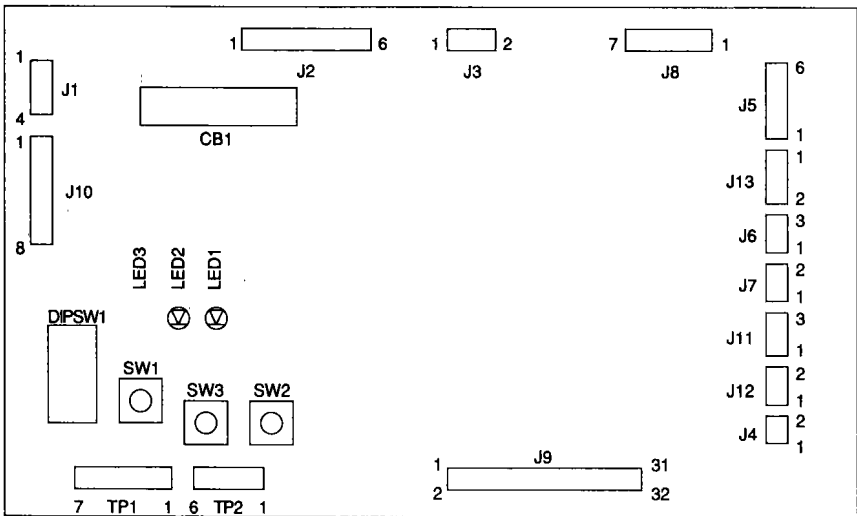
...... ⊘

VRs that must not be used in the field

...... ⊘

Figure 5-37

LED	Description
LED1	Use it to check the output of the document sensor.
LED2	Use it to check the output of the registration sensor.

Table 5-16

| Test pin	Description
TP1-1	For factory
-2	For factory
-3	For factory
-4	For factory
-5	For factory
-6	For factory
TP2-1	For checking the output of the document sensor
-2	
-3	For checking the output of the registration sensor
-4	For factory
-5	For factory
-6	For factory
-7	For factory

Table 5-17

Checking the Output of the Document Sensor and the Registration Sensor

If you have replaced the RDF controller PCB, document sensor, or registration sensor in the field, you must make sure that the output of each sensor is correct; this is because the light-emitting and -receiving units of each of the sensors are not constructed as one.

Making Checks
1) Switch the copier OFF.
2) Shift bit 4 of the DIP switch on the RDF controller PCB to ON.
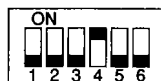
3) Switch the copier ON.
4) Press the push switch (SW3) on the RDF controller PCB once without paper on the document tray.
5) Make sure that LED1 and LED2 on the RDF controller PCB go ON, and the voltage of TP2-1 and TP2-3 is 1.1 ±0.1V.
   If the voltage of TP2-1 or TP2-3 is not as specified, check the position of the sensors; the light-emitting/-receiving unit of the sensor that corresponds to the test pin may be displaced.
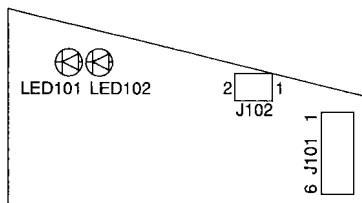
CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)

B. Indicator PCB

Figure 5-38

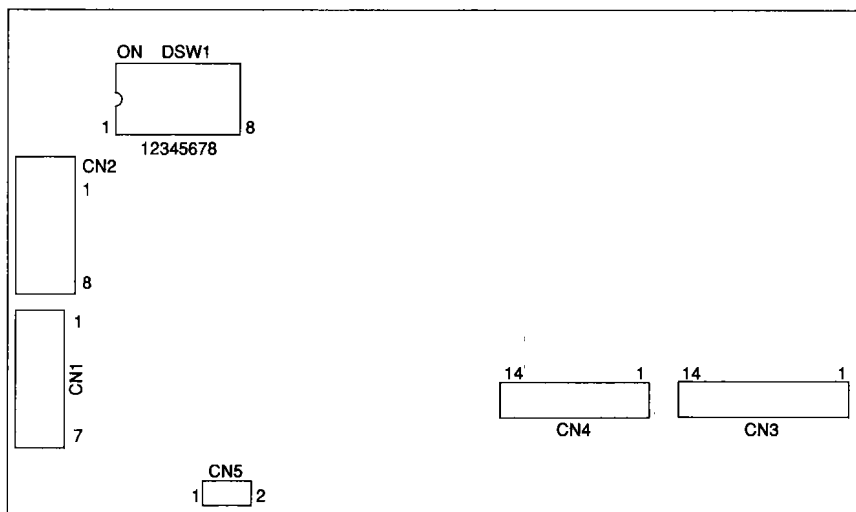| LED	Description
LED101	Indicates placement of a document
LED102	Indicates placement of a document

Table 5-18

C. Editor Controller PCB

Figure 5-39

■ Zero Adjustment of Editor Tablet

If you have replaced the editor controller PCB or the tablet unit, set the DIP switch on the editor controller PCB according to the values shown on the label.
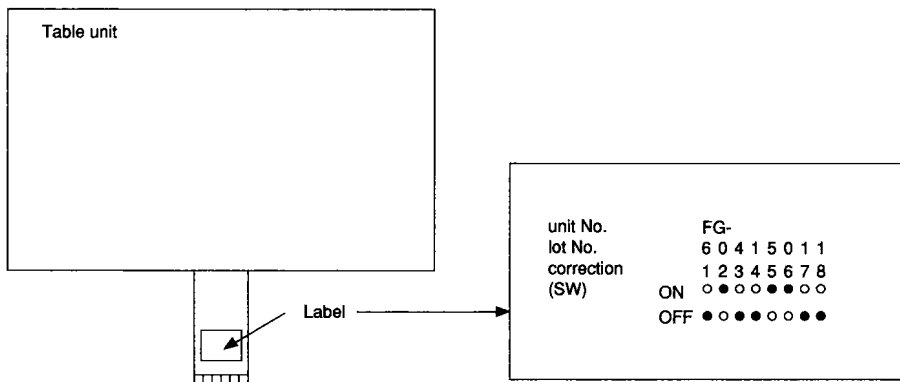

Figure 5-40

D. DIP Switch Configurations

Table 5-19 shows several configurations of the DIP switch (DIP SW) on the RDF controller PCB. Make sure that the copier is switched OFF before changing the configuration.
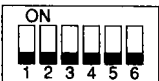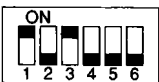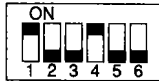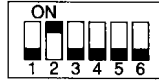
Item	DIP SW configuration	Description
Normal copy mode	ON 1 2 3 4 5 6	If all bits are OFF, the machine assumes normal copying mode.
Pick-up/delivery step operation	ON 1 2 3 4 5 6	Each press on the push switch (SW3) on the RDF controller PCB causes pick-up/delivery operation to repeat.
Image combination mode paper interval adjustment	ON 1 2 3 4 5 6	A press on the push switch (SW3) on the RDF controller PCB causes two documents to be picked up and placed on the copyboard glass side by side; presses on the push switch (SW, SW2) enable adjustment of the stop position.
Pick-up/ reversal/ delivery step operation	ON 1 2 3 4 5 6	Each press on the push switch (SW3) on the RDF controller PCB causes pick-up/reversal/delivery operation to repeat.
Document stop position adjustment	ON 1 2 3 4 5 6	A press on the push switch (SW3) on the RDF controller PCB causes a document to be picked up and stopped on the copyboard glass; presses on the push switch (SW1, SW2) enable adjustment of the stop position.
Continuous pick-up/delivery	ON 1 2 3 4 5 6	Set three or more copy paper on the document tray, and press the push switch (SW3) on the RDF controller PCB; this will cause pick-up and delivery operations to repeat continuously.
Sensor level check	ON 1 2 3 4 5 6	Each press on the push switch (SW3) on the RDF controller PCB causes the document sensor and registration sensor to assume an ON condition.
Non-standard size	ON 1 2 3 4 5 6	Shift the bit to ON when using a document of the following sizes: <table><tr><td>RDF configuration</td><td>Length (feeding; mm)</td></tr><tr><td>A/B</td><td>220 to 250</td></tr><tr><td>INCH</td><td>220 to 260</td></tr></table>
Separation belt/feeding roller cleaning (for pick-up motor)	ON 1 2 3 4 5 6	Shift the bit to ON to rotate the RF pick-up motor to rotate, cleaning the separation belt and the feeding roller.

Table 5-19

V. SELF DIAGNOSIS

A. RDF Self Diagnosis

The microprocessor found on the machine's RDF controller is provided with a function to check the machine condition. When it finds an error, it communicates the fact to the copier, which in response indicates a corresponding code on its control panel.

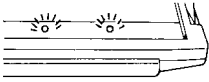| Code	Cause	Description
E400	• Data communication with copier is faulty	The communication is monitored at all times; an error is issued when the communication with the copier is disruppted for 5 sec or more.
E401	• Pick-up motor (M1) fails to rotate • Pick-up roller sensor (S5) is faulty	The flag on the shaft of the pick-up motor (M1) is used to monitor the rotation of the motor; i.e., the flag blocks the pick-up roller sensor (S5). An error is issued when the sensor does not go ON and OFF twice or more within 1 sec.
E402	• Belt motor (M3) fails to rotate • Belt motor clock sensor (S10) is faulty	An error is issued when the number of belt clock pulses within 200 ms is not as specified.
E403	• Feeder motor (M2) fails to rotate • Feeder motor clock sensor (S9) is faulty	An error is issued when the number of feeder motor clock pulses within 200 ms is not as specified.
E411	• Document sensor (S1) is faulty • Registration sensor (S3) is faulty	An error is issued when the output of the sensor is 2.3 V or more in the absence of paper.

Table 5-20

Note:
i. To reset the machine after its self diagnosis has been executed, switch the copier OFF.
ii. You can still make copies even when the RDF is out of order; lift the RDF, and place the document on the copier's copyboard.

B. Editor Self Diagnosis

The microprocessor found on the machine's editor controller is provided with a function to check the machine condition. When it finds an error, it indicates the fact by flashing its LEDs.

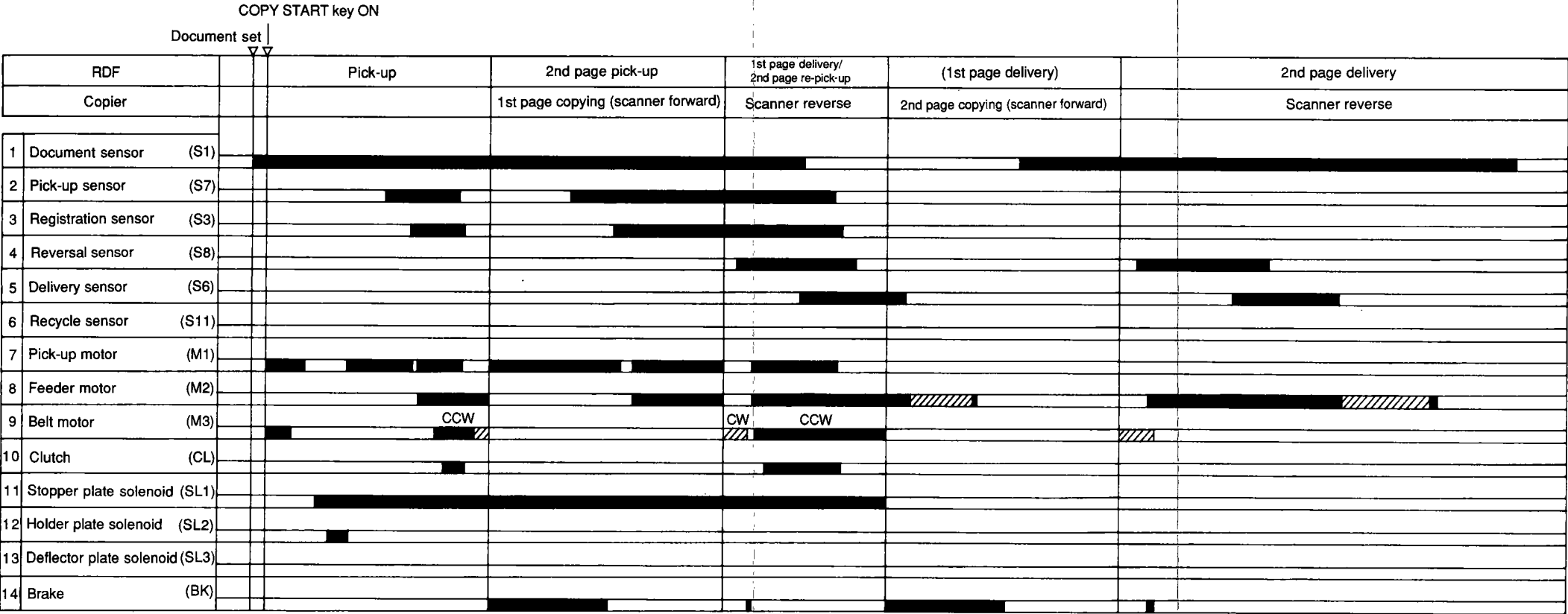|	Flashing pattern	Cause	Description
1		• Harness is broken or bent. • Editor controller is faulty	at power-on
2		• Cable between plane-shaped resistor and editor controller is broken or displaced	at power-on
3		• Plane-shaped resistor has a short circuit; force stronger than a specific value is imposed on the editor input face at time of power-on	at power-on

Table 5-21

The LEDs go ON and OFF at intervals of one second.

Errors represented by pattern 2 or 3 can be cleared by simply removing the causes of the errors.

A4, 2 documents (two-sided documents to one-sided copies)

COPY START key ON

Document set

RDF		Pick-up	2nd page pick-up	1st page delivery/ 2nd page re-pick-up	(1st page delivery)	2nd page delivery
Copier			1st page copying (scanner forward)	Scanner reverse	2nd page copying (scanner forward)	Scanner reverse
1	Document sensor (S1)					
2	Pick-up sensor (S7)					
3	Registration sensor (S3)					
4	Reversal sensor (S8)					
5	Delivery sensor (S6)					
6	Recycle sensor (S11)					
7	Pick-up motor (M1)					
8	Feeder motor (M2)					
9	Belt motor (M3)		CCW	CW CCW		
10	Clutch (CL)					
11	Stopper plate solenoid (SL1)					
12	Holder plate solenoid (SL2)					
13	Deflector plate solenoid (SL3)					
14	Brake (BK)					

▨▨▨ ： low speed rotation

CCW ： counterclockwise rotation; pick-up direction

CW ： clockwise rotation; delivery direction

CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)

A4, 2 documents (two-sided documents to one-sided copies)

Document set — COPY START key ON

RDF		Pick-up	Reversal		Reversal		1st page delivery/2nd page pick-up	Reversal		Reversal		Delivery
				2nd side of 1st page copying		1st side of 1st page copying			2nd side of 2nd page copying		1st side of 2nd page copying	
1	Document sensor (S1)											
2	Pick-up sensor (S7)											
3	Registration sensor (S3)											
4	Reversal sensor (S8)											
5	Delivery sensor (S6)											
6	Recycle sensor (S11)											
7	Pick-up motor (M1)											
8	Feeder motor (M2)											
9	Belt motor (M3)		CCW	CW CCW		CW CCW		CW CCW	CW CCW		CW CCW		CW
10	Clutch (CL)											
11	Stopper plate solenoid (SL1)											
12	Holder plate solenoid (SL2)											
13	Deflector plate solenoid (SL3)											
14	Brake (BK)											

▨▨▨ : low speed rotation

CCW : counterclockwise rotation; pick-up direction
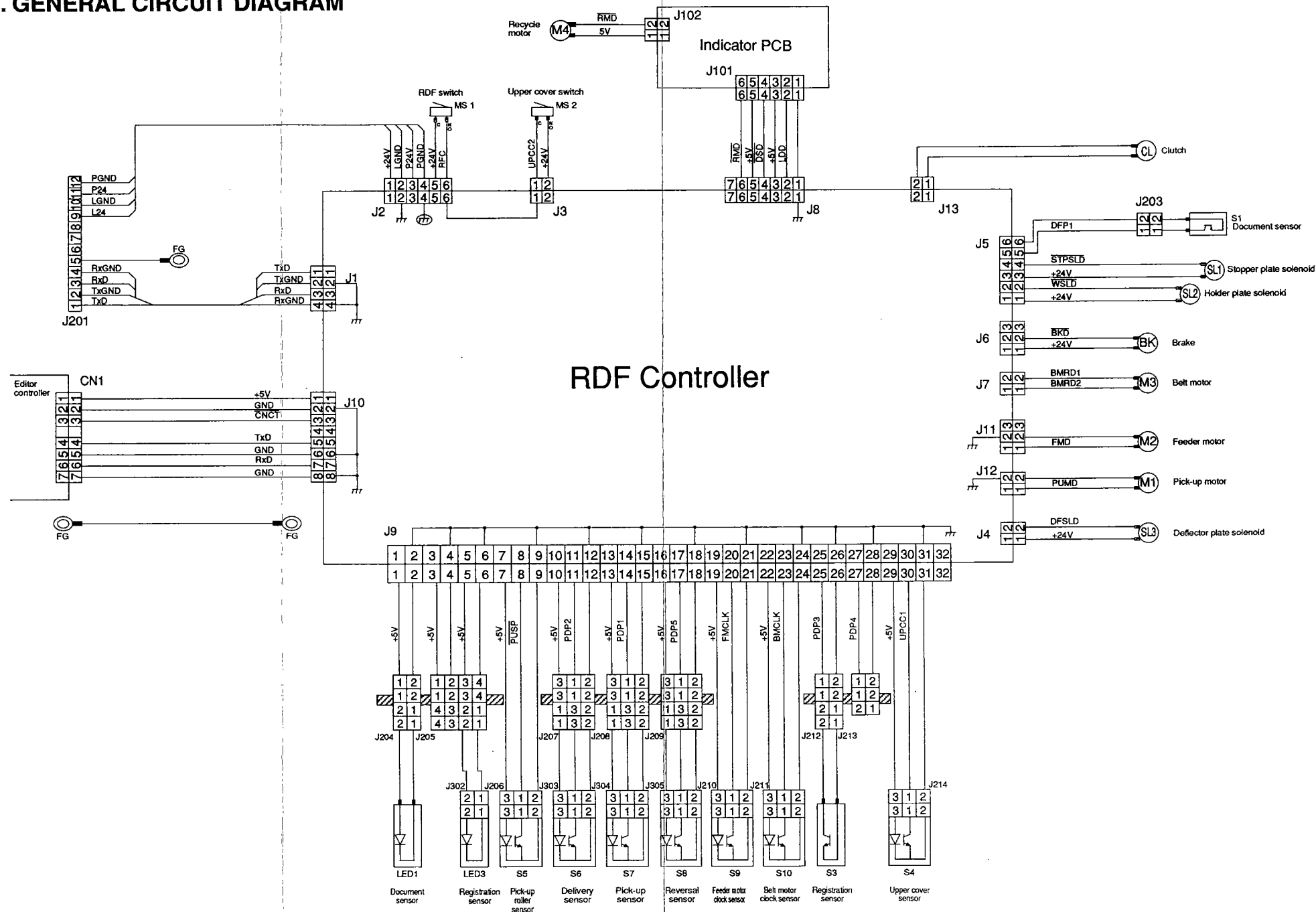
CW : clockwise rotation; delivery direction

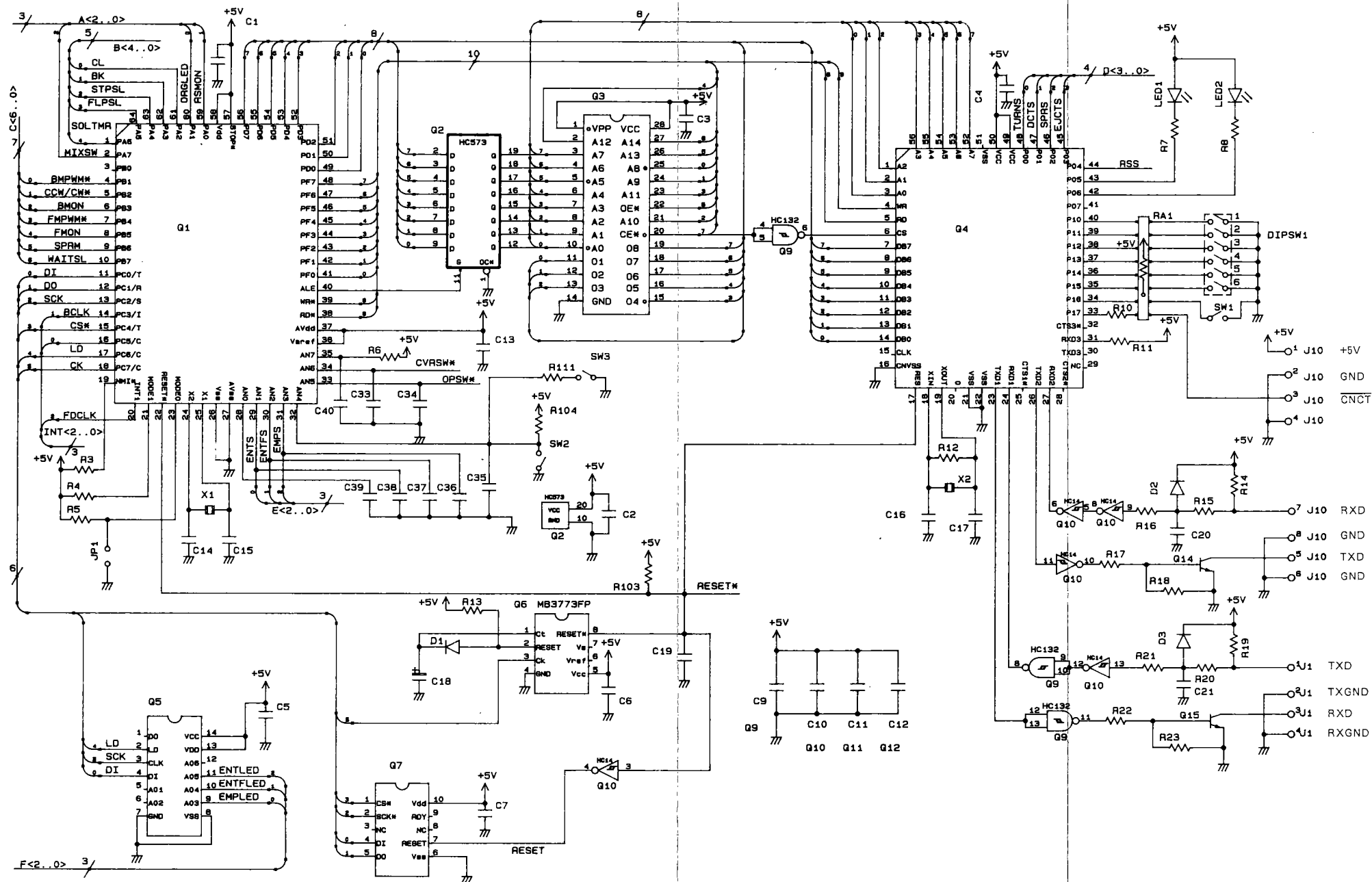# B. LIST OF SIGNALS AND ABBREVIATIONS

Note:
What is given below are abbreviations and descriptions of the signals used in this manual and circuit diagrams. The abbreviations in parentheses are analog signals, which cannot be expressed as being '1' or '0'; those others are digital signals, which can be expressed as being '1' or '0'.

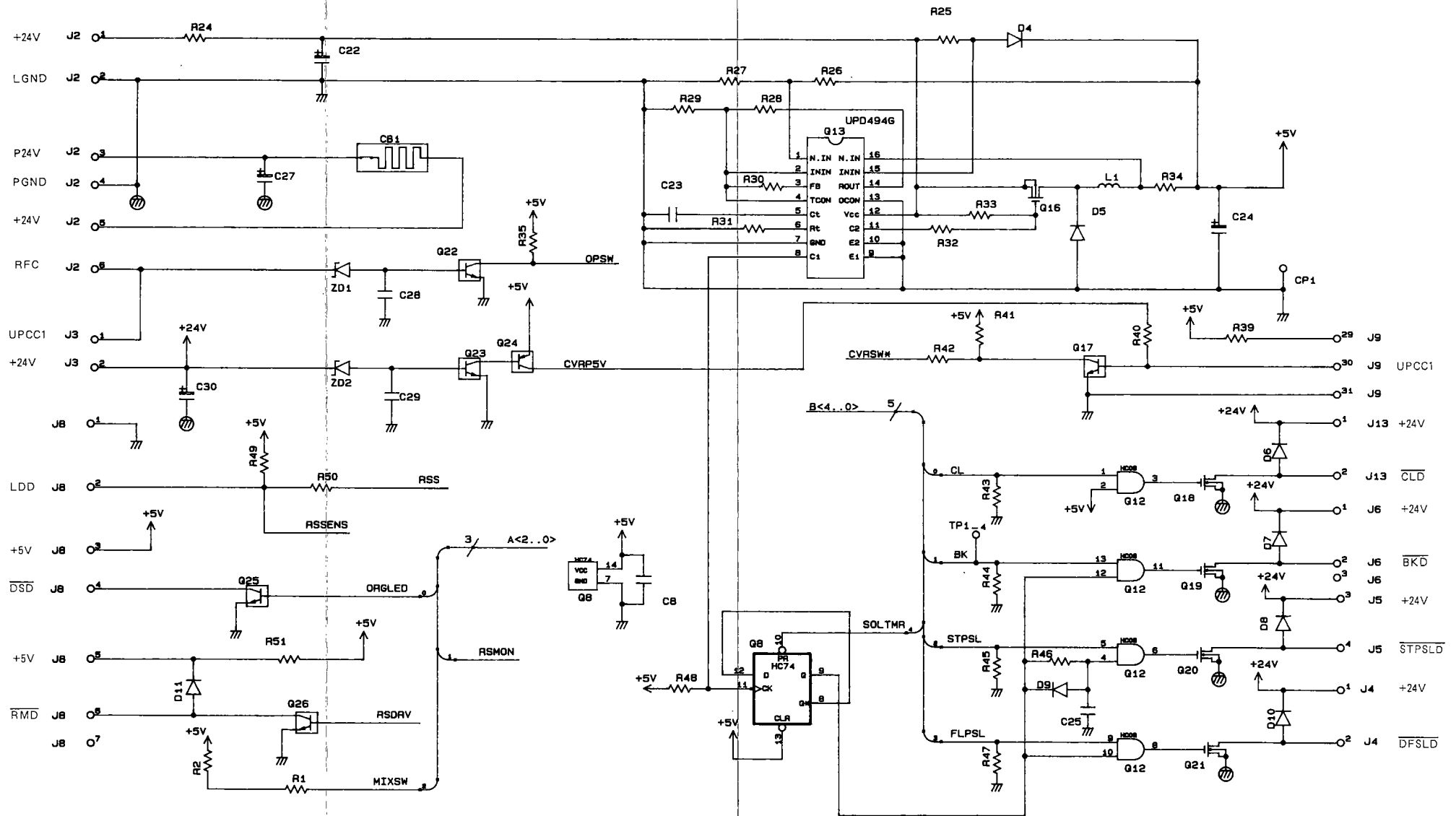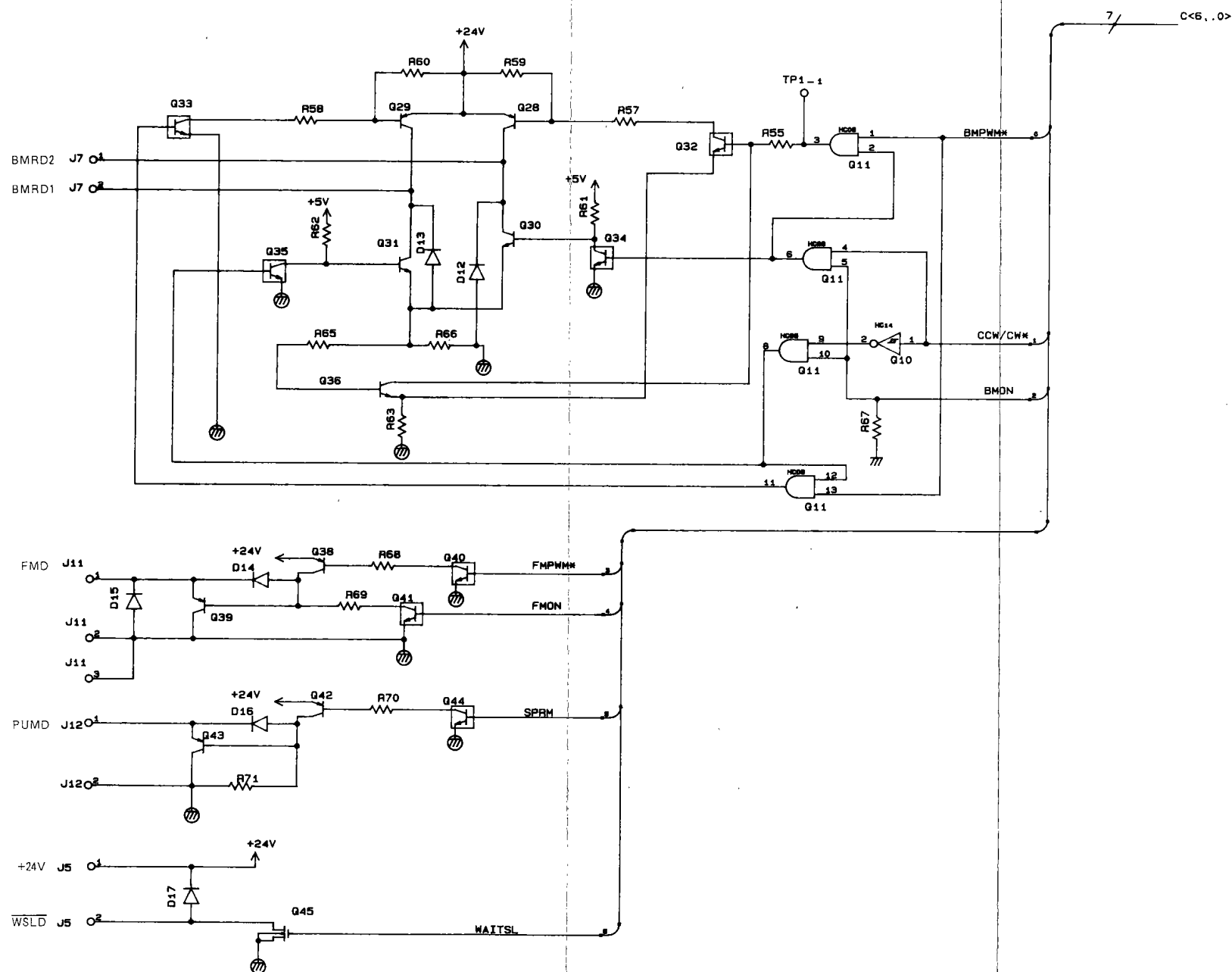|	
BKD	BRAKE DRIVE Command
BMCLK	BELT MOTOR CLOCK PULSE Signal
BMON	BELT MOTOR DRIVE Command
BMPWM	BELT MOTOR P.W.M. Command
BMRD	BELT MOTOR ROTATION Command
CLD	CLUTCH DRIVE Command
CNCT	CONNECT Signal
DEP1	DOCUMENT EMPTY1 Signal
DFSLD	DEFLECTOR SOLENOID DRIVE Command
DSD	DOCUMENT SYNC DRIVE Command
DSIN	EDITOR INPUT Signal
DSOUT	EDITOR OUTPUT Signal
FMCLK	FEED MOTOR CLOCK PULSE Signal
FMD	FEED MOTOR DRIVE Command
LDD	LAST DOCUMENT DETECTION Signal
PDP1	PAPER DETECTION Signal 1
PDP2	PAPER DETECTION Signal 2
PDP3	PAPER DETECTION Signal 3
PDP5	PAPER DETECTION Signal 5
PUMD	PICK-UP MOTOR DRIVE Command
PUSP	PICK-UP ROLLER START POSITION Signal
RFC	RDF CLOSED Signal
RMD	RECYCLE MOTOR DRIVE Command
RSIN	RDF SERIAL INPUT Signal
RSOUT	RDF SERIAL OUTPUT Signal
STPSLD	STOPPER SOLENOID DRIVE Command
UPCC1	UPPER COVER CLOSED Signal 1
UPCC2	UPPER COVER CLOSED Signal 2
WSLD	WEIGHT SOLENOID DRIVE Command

C. GENERAL CIRCUIT DIAGRAM

CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG. 1992 PRINTED IN JAPAN (IMPRIME AU JAPON)

CANON RDF-C1/RDF-C1 EDITOR REV.0 AUG.1992 PRINTED IN JAPAN (IMPRIME AU JAPON)
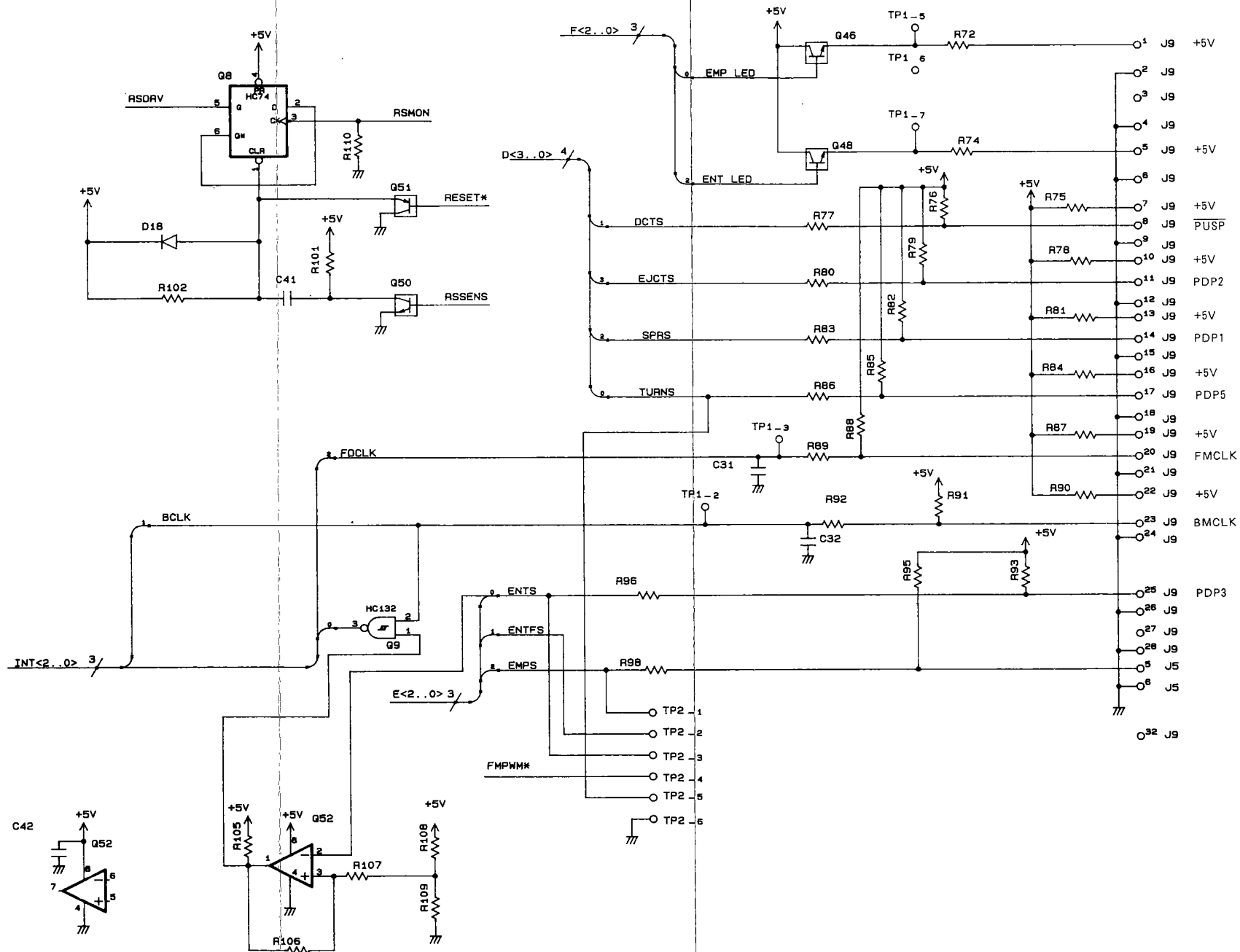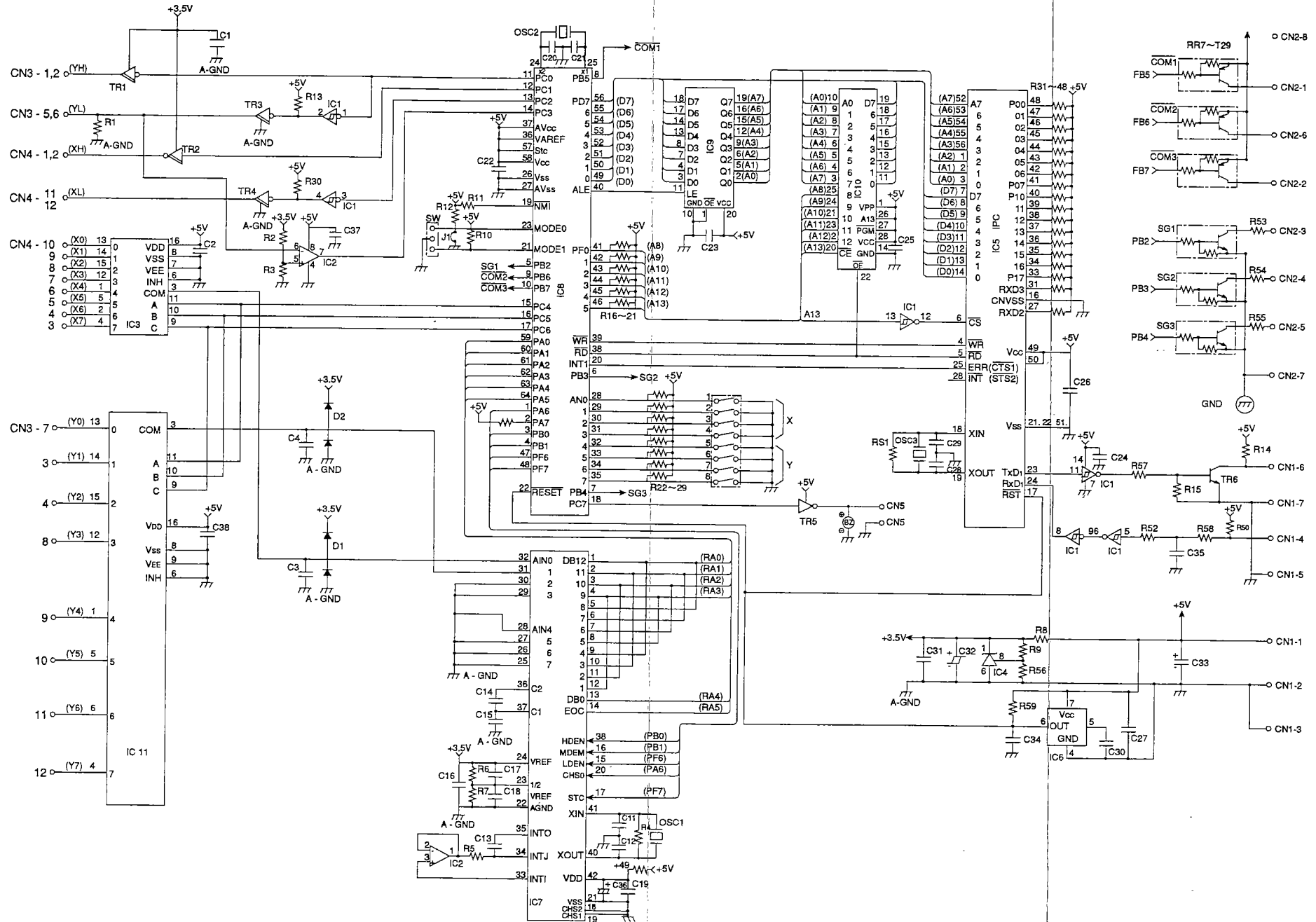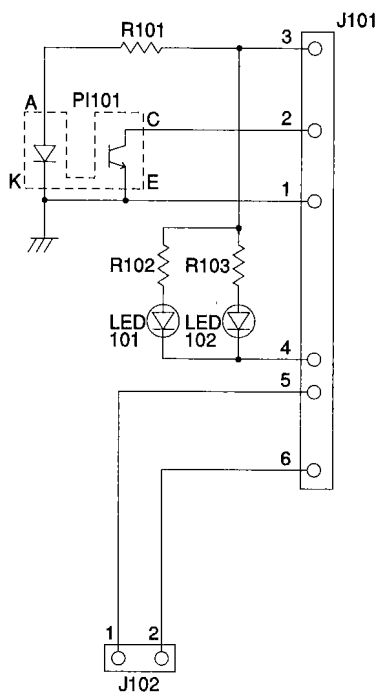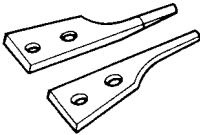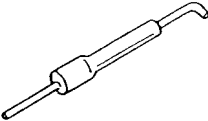
F. DISPLAY CIRCUIT DIAGRAM

G. SPECIAL TOOLS

In addition to the standard tools set, the following will be needed when servicing the machine:

No.	Tool name	Tool No.	Shape	Notation *	Remarks
1	Replacement blade for stop ring pliers	CK-0246		B	For removing stop ring; 4 to 9 mm
2	Tension gauge	CK-0058		B	For adjusting separation belt; 0 to 600 g

*Keep each tool on hand as follows:
    A: each service person must have one.
    B: each group of five service persons
       must have one.
    C: each workshop must have one.

H. SOLVENTS AND OILS

No.	Name	Use	Composition	Description
1	Alcohol	Cleaning; e.g., glass, plastic, rubber, and external covers	Hydrocarbon (fluorine family) alcohol surface active agent water	• Do not bring near open fire. • Procure localy. (isopropyl alcohol)
2	Heat-resisting grease	Lubricating; e.g., sliding parts	Lithium soap (oil family) molybdenum bisulfide	• Tool No. CK-0427 (500 g/unit)
3	Lubricant	Lubricating	Mineral oil (paraffin family)	• Tool No. CK-0451
4	Cleaning tissue	Cleaning; e.g., feeder belt, copyboard cover, copyboard glass		• Tool No. TKN-0454